GEORGIA INSTITUTE OF TECHNOLOGY
OFFICE OF CONTRACT ADMINISTRATION
SPONSORED PROJECT INITIATION

No action

Date: March 19, 1979

Project Title: Feasibility of Reopening the Southern Electric Steel Co. of Birminghan, ALa.

Project No: A-2318

Project Director: J. C. Muller

Sponsor: City of Birmingham, AL

Agreement Period: From 1/16/79 Until 4/15/79

Type Agreement: Std. Ind. Agreement

Amount: $8,700

Reports Required: Monthly Progress Reports

Sponsor Contact Person (s):

Technical Matters

Hon. David Vann, Mayor
City of Birminghan, Ala.
Birminghan, AL 35203

Contractual Matters
(thru OCA)

Defense Priority Rating:

Assigned to: Technology & Development (School/Laboratory)

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- Other _____

CA—3 (3/76)

GEORGIA INSTITUTE OF TECHNOLOGY
OFFICE OF CONTRACT ADMINISTRATION

SPONSORED PROJECT TERMINATION

Date: 6/29/79

ect Title: *Feasibility of Reopening the Southern Electric Steel Co. of Birmingham, Alabama*

oject No: *A-2318*

oject Director: *J. C. Muller*

ponsor: *City of Birmingham, AL*

Effective Termination Date: *6/29/79*

Clearance of Accounting Charges: *6/30/79*

Grant/Contract Closeout Actions Remaining:

TERMINATED

- x Final Invoice and Closing Documents
- _ Final Fiscal Report
- _ Final Report of Inventions
- _ Govt. Property Inventory & Related Certificate
- _ Classified Material Certificate
- _ Other _____

Assigned to: *Technology and Development* (School/Laboratory)

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CA-4 (1/79)

Georgia Tech Project A-2318-000

Feasibility of Reopening The Southern Electric Steel Mill Birmingham, Alabama

Project Director and Principal Investigator

James C. Muller

Market Analysis by

Harvey Diamond

Georgia Institute of Technology
Engineering Experiment Station
Atlanta, Georgia

May 14, 1979

Table of Contents

INTRODUCTION

The Southern Electric Steel Company Mill was constructed in 1955. It was specifically designed to produce reinforcing bar. Over the years the plant has been improved and expanded, resulting in a mill capable of producing plain rounds and merchant rounds in addition to reinforcing bar. However, reinforcing bar still accounts for 90% of the production. Recent modifications in the melt shop by upgrading of the two arc furnaces and installation of a continuous casting facility resulted in increased melting capacity, yield, and melt quality. Annual capacity is now approximately 100,000 tons of finished product.

The plant operated profitably until 1975 when it apparently suffered both volume and efficiency problems; (see Exhibits 1 and 2). In mid-1977 the labor force went out on strike when the management and the union could not reach an agreement in contract renewal negotiations. When it became apparent that an amicable agreement could not be made, the parent company, CECO, decided to close the plant. The plant has been for sale since that time.

The proposal currently under investigation is that the United Southern Steel Company, Inc., acquire Southern Electric Steel Company from the CECO Corporation for a total of $3.5 million. It is proposed that the cost of acquisition be financed through an EDA guaranteed loan. It is anticipated that modernization, start up, and working capital be furnished by the former works manager, an unnamed local businessman, and an out-of-state company. The former works manager will assume the position of President and General Manager of the new company; the other investors will not actively participate in the management of the company.

MARKET FEASIBILITY

It is the intention of United Southern Steel (USS) management to produce for sale steel reinforcing bars (rebar) and merchant rounds. It is anticipated that for the first full year of production, total output will consist of approximately 44,000 tons (90%) of rebar and 6,000 tons (10%) of merchant rounds.

Rebar

The currrent primary use of rebar is for reinforcing concrete. Invented in France in 1968, reinforced concrete was slow in gaining popularity in the U.S. until the 1920's. In 1941, rebar shipments for the year peaked at 1.9 million net tons. Curtailed production (less than a million tons per annum), was prevalent during much of World War II, but by 1948 rebar shipments were well on the way to pre-war levels. It was not until 1955, however, that domestic rebar production reached 2 million net tons.

Reinforced concrete has come into its own primarily at the expense of structural steel, especially for multi-story office and apartment buildings. There are no statistics to show the portion of building carried out in each material, and although delivery data of steel beams and rods to the construction industries are available, delivery figures of cement and aggregate are too generalized to give any real indication of trend. But the consensus among builders, architects, engineers, and even steel manufacturers is that the use of reinforced concrete is still increasing at the expense of structural steel, particularly for commercial buildings.

Flamboyance and flexibility of design not withstanding, the shift to concrete framework is based on the simplest of reasons -- cost. In many if not most cases, reinforced concrete is cheaper than steel for multi-story commercial buildings.

There are no hard and fast rules for selection between steel and reinforced concrete. Every building is a different case, each has its most appropriate frame

design, and what is economic for one may not be for the other. Furthermore, there is a wide range of opinion within the building industry on the subject of relative costs. Nevertheless, there is a general agreement that for a commercial building of given size and amenity, the best design in reinforced concrete is cheaper than the best one in steel.

As the use of reinforced concrete expands, so does the need for rebar. In 1973 and 1974, during the commercial building boom, shipments of rebar exceeded 5 million tons per annum. For 1975 and 1976, with the U.S. in a construction recession, rebar shipments fell below 4 million tons, but renewed nonresidential building activity in 1977 and 1978 has once again increased demand for rebar. In 1977, U.S. rebar shipments were almost 4.2 million tons, and preliminary data for the first 10 months of 1978 place rebar production 11% greater than the previous year.

Since steel reinforcing bars for concrete belong intrinsically to commercial construction, it is not unexpected to find a high coefficient of correlation (0.89) between shipments of rebar and the volume of nonresidential building construction in the United States (see Exhibit 3).

The U.S. Department of Commerce, in its 1979 construction forecast, predicted an acceleration of private industrial and commercial building, primarily office space and shopping centers. For total nonresidential building, a 9% increase was predicted. Since this figure would be over and above an anticipated growth for 1978, the total 1979 volume for nonresidential building could well approach $50 billion. A longer range (5 years) conservative forecast can be developed by a straight line projection. By using previous nonresidential building data, those of 1961, 1977, and the intervening years as bases for a first degree projection, a forecast of more than $51.3 billion can be estimated for 1982 (see Exhibit 4). This growth, equal to 4.4% per annum for the 17 year period, should dictate approximate domestic demand for rebar in construction.

It is reasonable to assume, therefore, that the national market for steel reinforcing bars would also expand by 4.4% annually and, by 1982, could reach 5.2 million tons--possibly more, if the percentage of rebar used in construction expand.

USS Market

United Southern Steel Corporation expects to ship the bulk of its rebar output to companies in Alabama, Georgia, Mississippi, and Tennessee, with Alabama firms purchasing the major portion of production.

The market area designated by USS has been increasing its portion of the national total of nonresidential building construction. In 1965 the value of this construction in the U.S. was $17.2 billion. Of this total, $994 million or 5.8% occurred in the four states. The percentage ratios steadily increased to 6.2% in 1968, 6.4% in 1970, and 6.7% in 1974. In 1977, this same construction nationally was valued at $35.3 billion, while the four southern states increased their percentage to 7.2% or $2.54 billion.

The correlation between nonresidential building construction and shipments of steel reinforcing bars can be used to estimate the four-state southern market for rebar. Since more than 7.2% of the national nonresidential building is constructed in the area, by applying this same percentage to national production figures and projections for reinforcing bars, it can be assumed that the market for rebar in the four states was 302,000 tons in 1977 and will grow to at least 375,000 tons by 1982. Should the market area portion of the national total of nonresidential construction continue to increase for this period at its current rate, by 1982 this volume could exceed 400,000 tons annually.

Traditionally, large steel mills used rebar as a handy device for utilizing "off heats" from other products. Conversely, when bar business was strong, producers did not solicit rebar business because there was more profit elsewhere. Consequently, foreign competition came in, and by the late 1950's import volumes were substantial (see Table 1).

Table 1

STEEL REINFORCING BAR SHIPMENTS
DOMESTIC AND FOREIGN
(in thousands of net tons)

Year	Domestic Shipments (A)	Imports (B)	(B) as a Percent of (A)
1949	1573	10	.1
1951	1900	138	7.3
1953	1849	108	5.8
1955	2165	159	7.3
1957	2300	160	7.0
1959	2173	852	39.2
1961	2442	583	23.9
1963	2684	545	20.3
1965	3151	568	18.0
1967	3249	567	17.5
1969	3658	471	12.9
1971	4531	515	11.4
1973	5135	286	5.6
1975	3666	142	3.9
1977	4179	93	2.2

In 1973, a serious and sizable shortage of reinforcing bars was created, delaying projects under way and extending starting dates of those in planning. As black markets developed in some areas for rebar, suppliers and fabricators blamed the shortages on the mills, claiming that the mills were turning out higher profit items, such as sheet for cars and appliances, instead of rebar, an acknowledged low price, low profit item. Compounding the problem was a worldwide shortage of available steel that together with the devaluation of the U.S. dollar, greatly reduced imports.

Mini-Mills

As demand eased during the recent economic recession, several major domestic mills dropped out of rebar and out of bar mill shapes. One reason cited, has been the continuing inflow of foreign made steel which undersells most domestic mill products in most markets. This type of competition has been especially rough for those products which are relatively easy to make and which use more common grades of steel.

For items such as rebar, the dometic industry's most effective answer has been the mini-mill, making steel by melting scrap in electric furnaces, using continuous casting machines to form molten metal into blooms and billets and then rolling the semi-finished forms into the finished product.

There are about 50 steel mini-mills presently in operation in the U.S. Of these, four plants that produce or have produced rebar are located in the four-state market area. They are Atlantic Steel Co., Cartersville, Georgia; Azcon Corporation, Knoxville, Tennessee; Connors Steel Company, Birmingham, Alabama; and the Mississippi Steel Division of Magma Corporation, Jackson, Mississippi. These companies, to a large extent, will provide the bulk of the rebar and merchant round competition for United Southern Steel. Connors Steel no longer chooses to produce rebar and Atlantic Steel has extensive and varied product lines. Except for Mississippi Steel with an estimated 1977 shipping volume of 60,000 net tons, the output of these firms are not available at this time. It is doubtful that rebar and plain round production from the four plants is adequate to satisfy the four-state area market.

Conversations with a number of old customers of the Southern Electric Steel Company indicated that USS should be able to reestablish a sales position and to penetrate the existing market with its proposed production.

Merchant Rounds

The second item to be produced by United Southern Steel Corporation is merchant rounds. These steel bars are used by many industries for applications such as

machinery manufacturing, mine roof bolts, steel railings, support bands, railroad car and truck body manufacturing, or wherever close tolerances may be a factor for use.

Unlike rebar, however, rounds do not have an individual Standard Industrial Classification (SIC) number but are included in "Hot rolled bars except concrete reinforcing," and as such are difficult to quantify. Nevertheless, there are numerous metalworking companies located in the four-state area that use rounds, and since annual shipments of hot rolled bars are more than twice those of rebar, it would appear that an adequate market exists for USS's proposed 6,000-ton output.

TECHNICAL FEASIBILITY

Two things about the Southern Electric Steel Mill are immediately apparent--it is small, even by mini-mill standards, and it is old. Neither of these is fatal to the proposal; they must be examined in the proper context.

Big is not always best. Certainly there are economies of scale in the larger mills. In fact there is a general consensus among steel experts that a "greenfield" steel mill smaller than 400,000 tons annual capacity cannot be justified. But Southern Electric is an existing facility and the basis for justification is quite different. A "greenfield" steel mill in the 400,000-ton range has a capital cost of about $180 a ton. The Southern Electric Steel Mill can be purchased for $35 a ton. Also consider that the Southern Electric Steel Mill proposes to serve a regional rebar market previously quantified at 300,000 tons per year. Nearness to customers with attending economies of transportation may indeed enable the Birmingham mill to capture a quarter to a third of the regional rebar market, but it is unlikely that it could do better even if it had the capacity. It appears that the economics of being big must be traded off for the necessity of being small in the case at hand.

Big also implies inertia. The large steel mills cannot adjust to the cyclical nature of both production and profits in this industry. On the other hand, the small mill can change course quickly and move into profitable new specialties depending upon its capability and equipment. Equipment limitations presently preclude the Southern Electric Mill from producing anything other than rebar and low grade merchant rounds, but the new management has plans to remedy this, as will be seen later.

The size of the Southern Electric Mill is an established 90,000 tons annual capacity. Past production records indicate that this level has been reached; however, an average rate of only 5,000 tons per month was recorded during the last year of operation. The reduced level of production was predominantly due to softening in the

market. Melting capacity is the current limit of plant capacity. Replacement of the arc furnace shells with larger shells will stretch capacity to 100,000 tons. Replacement was in progress before shutdown. Estimated capital funds required to complete the project are in the schedule of capital improvements which follows in the financial feasibility section. A further stretch of the melting capacity can be made by purchasing larger ladles and scrap buckets. An estimated $200,000 would be required for this purpose. This purchase is not in the schedule of capital improvements since it is not considered a priority item.

The statement that the plant is old is not entirely true. The billet casting facility is three years old and is as modern as any in the industry. Interestingly enough, it would cost much more than the purchase price of the entire facility to replace the caster. It is the caster more than anything else, except perhaps the geographical location of the plant, that makes the purchase of the plant an attractive investment.

Refer to Exhibit 5 for a complete description of the plant facilities. Exhibit 5A is a schedule of capital improvements which are to be accomplished before or shortly after operations are resumed at the plant. A discussion of the benefits from these improvements follows.

The age of the plant mainly manifests itself in the rolling mill and the reheat furnace. Neither has been modernized or automated to any degree in the past 20 years. In fact, many of the disadvantageous aspects of rolling ingots remain even after running for a year and half on billets. Apparently the rolling operation received less attention than the melting operation because it was not limiting plant capacity. It is felt that the low productivity and lack of flexibility in the rolling mill section greatly contributed to losses suffered by the company during its last two years of operation.

Table 2

ROLLING MILL PRODUCTION ANALYSIS
APRIL '76 THROUGH AUGUST '77

Rebar Size	Average Production	Standard Deviation
# 4	12.1 ton/hr	2.1 ton/hr
5	18.3	2.1
6	25.2	2.5
7	22.1	2.7
8	25.2	4.8
9	20.3	2.9
10	24.0	2.8
11	22.0	5.0

Table 2 shows the relative productivity in net tons per operating hour of the different size rebars and the variability thereof. As expected, the smaller size bars exhibit lower productivity because the mill runs feet per minute and the production units are tons per hour. Fortunately, the higher selling price per ton of the smaller rebar somewhat offsets the lower productivity. Recent experience shows that a proportionately larger share of the smaller size rebar is being sold, so it behooves the rebar producer to run as efficiently as possible on the smaller sizes. Two positive aspects of the Southern Electric Mill in this regard are that the production variability in the smaller size rebars is low, 2.1 to 2.5 net tons per hour, and that a bar splitting apparatus was installed in the finishing mill section which will increase productivity of #4 and #5 rebar to about 18 and 24 tons per hour, respectively. The installation was completed just prior to shutdown, so no actual production experience is available. However, this same scheme has been employed sucessfully at another of CECO's mills.

Table 2 also highlights another unfavorable characteristic of the rolling mill. The basically flat productivity trends in rebar sizes #7 through #11 and the high production variability are contrary to expectations. The reason for this is the requirement for manual handling of the bar in the passes through the roughing mill. Billets of progressively longer lengths are needed for the larger rebars, compounding the problems of handling the heavy red-hot bars. This is a very labor-intensive and hazardous operation. The new manager proposes to automate the roughing mill and in so doing eliminate the manual handling of the bar. An estimated $250,000 will be required to do the project--no firm quotes are presently available. As in the case of the bar splitting apparatus, this is not a new and untried scheme; designs are available and in use for automating this exact same mill. Automating the roughing mill should both improve the productivity and decrease the variability of the rolling operation. Also, the automation will make possible a reduction of seven men per shift in the rolling mill crew. Assuming an average productivity of 26 tons/operating hour and an average wage of $8.40/hour (including fringes), the payback for the automation is 110,544 tons.

Also planned for the rolling mill is an upgrading of the finishing mill. As was previously stated, product versatility is desirable and not possible at present. Upgrading the finishing mill will permit the production of merchant rounds with very closely held diametrical tolerances. This will be both a new product and a profitable one. About $85,000 will be required for upgrading. Justification of this expenditure is not undertaken, since it involves taking into account variables which are not readily quantifiable.

A two stage improvement in the cross-country-mill (intermediate mill) is planned at $40,000 each. Modifications are apparently aimed at improving the uptime on the mill. Unfortunately, the basic characteristics of this mill preclude the running of bar shapes other than round. It is unlikely that any program to run a variety of shapes will

be undertaken in the near future since the cost would run into several million dollars. Also, the plants static cooling beds cannot readily accommodate bars which do not roll of their own accord.

The reheat furnace is scheduled to receive modification of both charging mechanism and pushout mechanism and an upgrading of furnace controls. The new charging and pushout mechanisms will capitalize on the uniform dimensional characteristics of the billets to effect a simple and efficient operation. The old ingot operation was laborious and ineffectual. The cost of this project is estimated at $195,000. It is a most easily justified expenditure since it permits the reduction of ten men from the rolling mill crew per shift. Assuming an average production rate of 26 tons/hours and an average wage of $8.40/hour (including fringes), the payback for reheat modifications is 60,357 tons.

A summary of the manpower reduction in the rolling mill section is explicitly illustrated in the "before" and "after" diagrams of the plant, Exhibits 6 and 7. The rolling mill crew is projected to be cut from 38 to 16. The reductions are predominantly made possible by the above discussed capital improvements. Manpower reductions in the cooling bed and bundling operations were at the discretion of the new manager. These reductions were discussed with two previous rolling mill supervisors; they agreed that all manpower reductions were most reasonable. Manning in the melting section is also shown, but an actual increase in manpower of two man-shifts is contemplated in the melt shop .

It appears that the capital improvements proposed by the principal are well selected and beneficial to the operation. However, the schedule for enactment of these improvements is much too tight. The level of work during the first two months of operation is nothing less than staggering. The principal's interest in getting into operation quickly is most understandable, but it is doubtful that he can have all of these improvements in place during the first year of operation.

The environmental aspects of the start-up of Southern Electric Steel are covered in the Environmental Assessment, Exhibit 8. This document was prepared by the principal investigator at the request of the applicant; it does not constitute an expert opinion in this matter, since the principal investigator is not a qualified environmental engineer. In short, the plant will be considered as a new source of pollutants when restarted. There is apparently going to be little or no problem in regard to water polluting discharge compliance, but there is a problem in regard to air polluting discharge compliance. Southern Electric Steel was listed as being out of compliance before its shutdown. The source of excessive pollutants is the arc furnaces. Although the flume from the arc furnaces is drawn through a bag house filter of apparently adequate capacity and efficiency the hoods at the furnaces are not considered to be sufficiently effective. The basic question is how much it will cost to abate the polluting discharge from the arc furnaces and not if the polluting discharge can be abated.

FINANCIAL FEASIBILITY

The two matters to be addressed in this section are: is the plant worth the purchase price and can the plant operate profitably? The naivete in considering the plant as having a worth before considering its potential for profit will be waived for the present.

The purchase price for Southern Electric Steel is set at $3.5 million; the book value of the plant is approximately $6 million. The cost to build a "greenfield" steel mill is about $180 per ton of annual capacity, the cost of Southern Electric Steel is $35 per ton of annual capacity ($45 to $50 per ton after capital improvements). On the basis of dollars for fixed assets, the plant appears to be a bargain.

Questions arise as to why CECO is selling the plant and why some enterprising individual or company has not already purchased the plant. The answer to the first question is that CECO, knowingly or unknowingly, made an almost irrevocable decision when it decided to close the plant during the strike. If CECO were to reopen the plant there would be grave legal implications. CECO would likely have to make a large settlement with the Steelworkers Union and, in the end, the plant might never get going on the right footing again. The second question is more difficult to answer. Reportedly there have been several parties interested in purchasing the plant. The analyst is not privy to particulars of the negotiations transacted between these parties and the seller. Sheer speculation is made that one or all of the following reasons prevented a sale: the magnitude of putting the project together discouraged buyers, the amount of working capital required to start up the plant was too great, there was a lack of know-how on the part of the principals in the venture, the principals feared the Steelworkers Union, the principals were uncertain of energy supply and cost, and the principals were generally uncertain of the national economy. The above concerns have been considered by the principal currently making the proposal of purchase, as will be discussed in the section on managerial feasibility.

The matter of whether or not the plant can operate profitably and to what extent required extensive investigation. The analyst based all of his figures on the production experience of the plant since the continuous caster was installed. A schedule of standard variable cost (Exhibit 9) was constructed, taking into account all manning reductions, wage reductions, current material prices and/or general price escalations. A schedule for inventory buildup was made (Exhibit 10). And, finally, pro forma income statements, balance sheets and statements of cash receipts and disbursements were constructed (Exhibits 11, 12, and 13), together with accompanying notes. These statements bear looking at in some detail. No prosaic attempt will be made to explain every detail in their preparation. The statements show the potential profitability given the current average selling price of rebar product; no provision is made for inflation, and no element of market uncertainty is taken into account.

Certain key elements of the venture are highlighted by the pro forma statements. A very large amount of start-up capital is required -- $4.6 million at one point. The requirement for a large amount of start-up capital is a fact of life in the very capital-intensive steel industry. If paid-in capital sufficient to cover start-up requirements cannot be raised, there are other alternatives:

- Extended credit agreements with scrap suppliers and other creditors might be arranged.
- Discounts might be granted to customers paying promptly.
- Short term loans secured by receivables and inventories might be obtained.

The principal is presently investigating all of these possibilities. The projected profitability of the reopened plant is good, 21% gross margin and a high of 5% net margin. The breakeven point is around 45,000 tons (Exhibit 14). These earnings enable the plant to reach a stable financial position in about four years. Pro forma ratios, (Exhibit 15), show the progressive improvement in the financial condition made possible by earnings generated.

MANAGERIAL FEASIBILITY

Mr. Edward Nemeth, the former Works Manager of Southern Electric Steel, will assume the position of President and General Manager of United Southern Steel. As can be seen in reviewing Mr. Nemeth's resume (Exhibit 16), he has had 29 years of experience in the steel industry. He has all the qualifications necessary to assume the position he seeks. Additionally, he has the unique qualification of having formerly managed the operation. He knows every technical detail of the plant and every person that formerly worked at the plant.

Many former employees, both staff and production, seek to return to the plant. Mr. Nemeth will be in a position to choose those who have demonstrated diligence and competence by their past performance. Exhibits 17 through 22 are resumes of former employees and candidates for the following positions, respectively: Controller, Plant Engineer, Quality Control Engineer, Melt Shop Superintendent, Rolling Mill Superintendent, and Maintenance Superintendent. Exhibits 23 through 27 are resumes of former employees and candidates for supervisory positions. All of these individuals are amply qualified to assume the positions they seek.

Mr. Nemeth has retained the assistance of Mr. Walter Phillips, Management Consultant and Labor Relations Attorney, to advise him in hiring the production work force. Mr. Phillips has 26 years of experience in industrial relations and has been on the National Labor Relations Board. Mr. Phillips recently completed an engagement with Kankakee Electric Steel during which he assisted in the successful nonunion start up of this plant, which is very similar to Southern Electric Steel.

Mr. Nemeth's planned reduction in manning from a high of 230 to 135, (Exhibit 28), is in keeping with the planned capital improvements. Additionally, some classifications of workers were eliminated as no longer necessary.

The supply of workers in the unskilled and semi-skilled classifications appears to be ample. Workers in the skilled classifications (millwrights and electricians) are reported to be in short supply. In the latter regard and to a lesser extent in the former, Mr. Nemeth has sought the assistance of the Alabama Department of Labor. He also plans to avail himself of the department's programs to assist in the training of employees at the plant site.

The organizational structure proposed by Mr. Nemeth is very flat (Exhibit 29). The analyst proposes that Mr. Nemeth consider an alternative structure (Exhibit 30). The apparent span of control in the latter structure is reduced from seven to five; in actuality, the span of control is reduced even more by the creation of a production superintendent. The key positions of production superintendent and plant engineer are positions which line level managers can aspire to and are training grounds for a future general manager if Mr. Nemeth were unable to continue in that position either by chance or by choice.

Mr. Nemeth's genuine belief in the value of people, as observed by the analyst, is going to be a real asset in the operation of United Southern Steel. He intends to institute a production incentive program that will provide unusually high rewards for performance. His experience is that the Steelworkers Union has, by choice, down-played incentives in favor of increases in base pay and that, consequently, management has by necessity suppressed the level of incentives. Many other mini-mill chief executives have followed this policy, which has proved to be very successful. He also plans to establish a profit-sharing plan whereby 7.5% of the before-tax profit of the plant will be set aside for the employees. Presumably this sum will be apportioned to the employees on the basis of earnings and longevity.

CONCLUSION

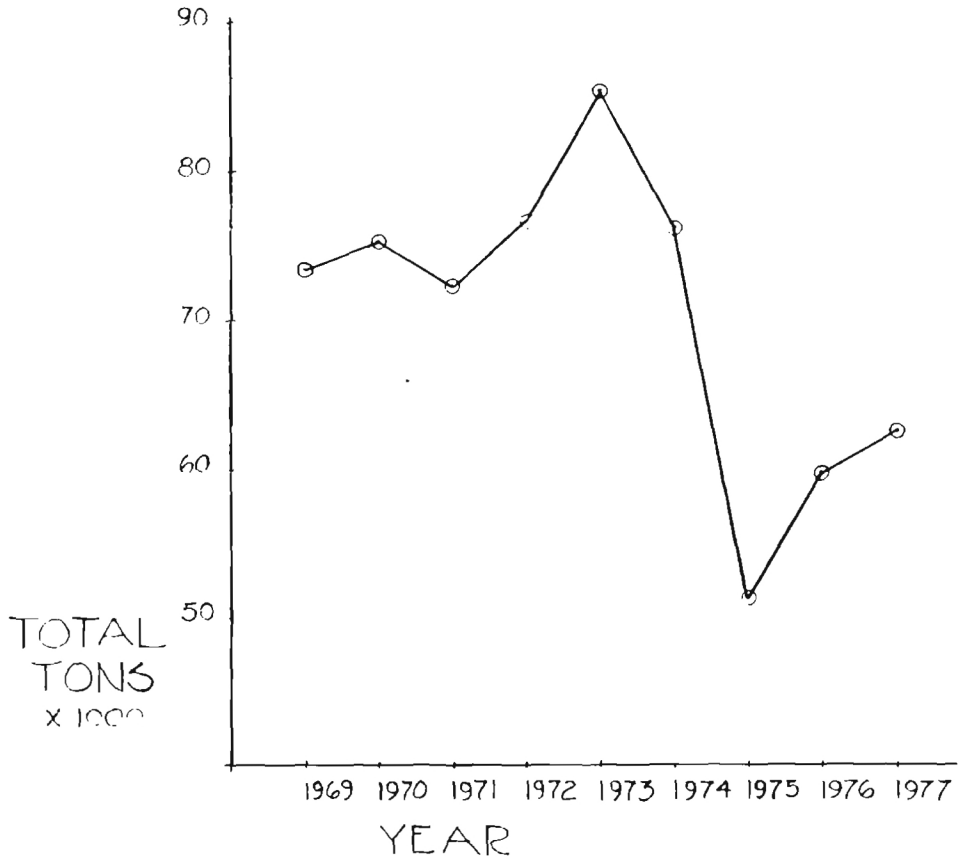
The general conclusion of this study is that resuming operations at the Southern Electric Steel facility is feasible based on the following positive aspects:

- The market for rebar is presently strong.
- The geographical location of the plant is excellent from the standpoint of its being near scrap supplies and near customers; also, there is no other rebar producer in Alabama.
- The purchase price of the plant and equipment is below book value and well below replacement value.
- The earnings from operation are sufficient to permit the company to stabilize its financial position in less than four years.
- The new general manager has extensive experience in the steel industry, an additional bonus being that he managed Southern Electric Steel for three years.
- A nucleus of qualified people formerly employed at the facility seek to return upon resumption of operations.
- The services of a highly qualified industrial labor relations consultant has been retained to assist in the nonunion start-up.
- The Alabama Department of Labor is ready to assist in recruiting and training the new workforce.

However, the following stipulations are made:

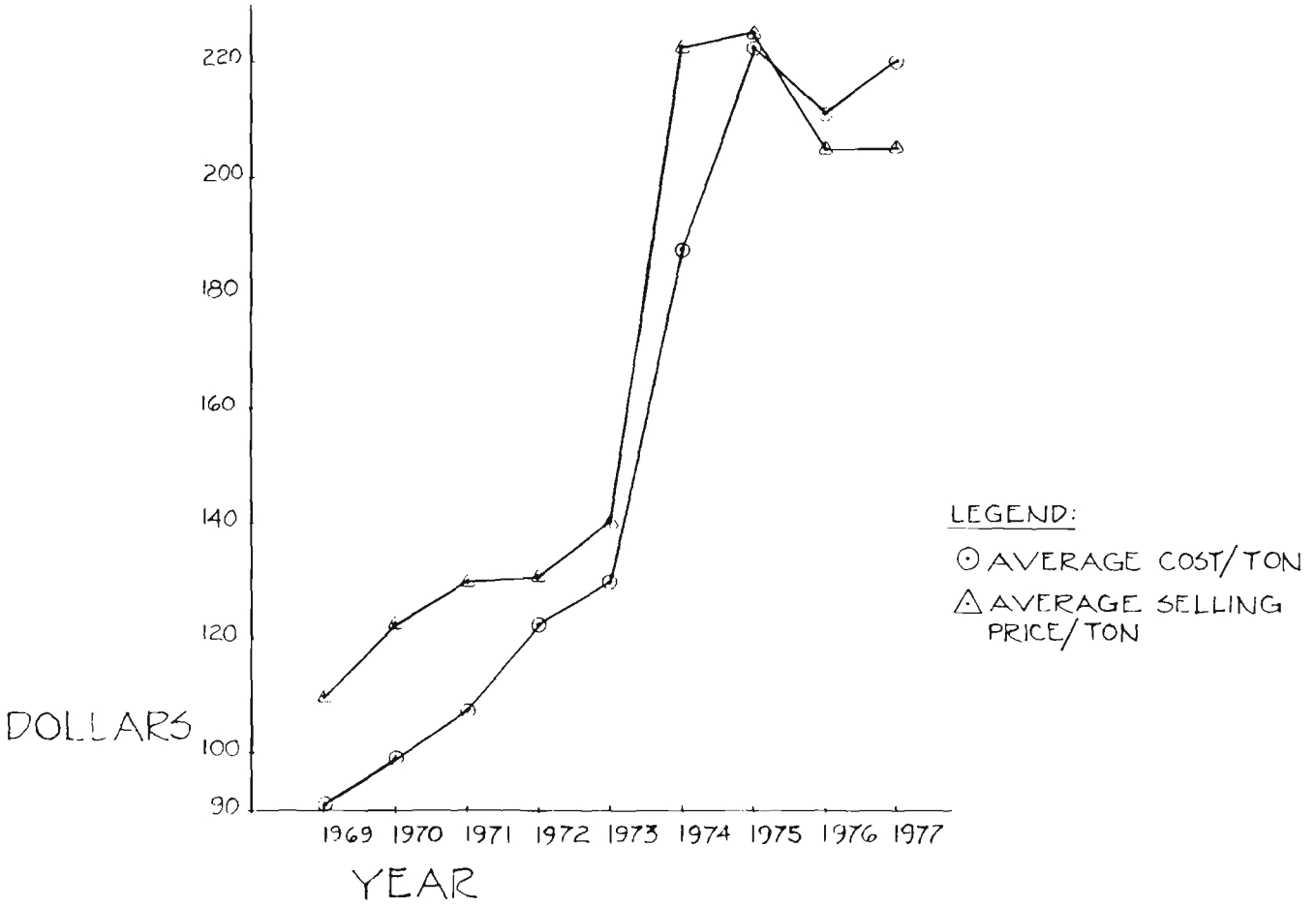
- A definite commitment must be made on a source(s) of start-up capital as quantified in the discussion of financial feasibility.
- The capital improvements as outlined in the discussion of technical feasibility must be accomplished.
- The question as to requirements necessary for the facility to comply with clean air and water standards must be resolved.

EXHIBIT 1



SALES
SOUTHERN ELECTRIC STEEL

EXHIBIT 2



GROSS MARGIN
SOUTHERN ELECTRIC STEEL

EXHIBIT 3

CORRELATION BETWEEN SHIPMENTS OF STEEL REINFORCING BARS AND NONRESIDENTIAL BUILDING IN THE U.S.

Year	x	y	$\frac{x}{x-a}$	$\frac{y}{y-a}$	xy	x^2	y^2
1961	244	209	-127	-109	13843	16129	11881
1962	239	201	-132	-117	15444	17424	13689
1963	268	219	-103	-99	10197	10609	9801
1964	323	249	-48	-69	3312	2304	4761
1965	315	244	-56	-74	4144	3136	5476
1966	328	272	-43	-46	1978	1849	2116
1967	325	281	-46	-37	1702	2116	1369
1968	324	292	-47	-26	1222	2209	676
1969	366	302	-5	-16	80	25	256
1970	489	371	118	53	6254	13924	2809
1971	453	339	82	21	1722	6724	441
1972	445	355	74	37	2738	5476	2738
1973	514	446	143	128	18304	20449	16384
1974	509	426	138	108	14904	19044	11664
1975	367	389	-4	71	-284	16	5041
1976	388	396	17	78	1326	289	6084
1977	418	414	47	96	4512	2209	9216
		5405			101398	123932	104402

$$\sigma_x = \sqrt{\frac{\varepsilon x^2}{n}} = \sqrt{\frac{123932}{17}} = 85.4$$

$$\sigma_y = \sqrt{\frac{\varepsilon y^2}{n}} = \sqrt{\frac{104402}{17}} = 78.4$$

Coefficient r =

$$\frac{\varepsilon xy}{n\sigma_x\sigma_y} = \frac{101398}{17(85.4)\ (78.4)} = .89$$

Note: x = Steel reinforced bars

y = Nonresidential building construction

EXHIBIT 4

LINEAR REPRESSION TREND FOR NONRESIDENTIAL CONSTRUCTION IN THE U.S.

Year	y	x	xy	x^2
1961	209	-8	-1674	64
1962	201	-7	-1407	49
1963	219	-6	-1314	36
1964	249	-5	-1245	25
1965	244	-4	-976	16
1966	272	-3	-816	9
1967	281	-2	-562	4
1968	292	-1	-292	1
1969	302	0	0	0
1970	371	1	371	1
1971	339	2	678	4
1972	355	3	1065	9
1973	446	4	1784	16
1974	426	5	2130	25
1975	389	6	2334	36
1976	396	7	2772	49
1977	414	8	3312	64
	5405		6162	408

$$a = \frac{\varepsilon y}{n} = \frac{5405}{17} = 318$$

$$b = \frac{\varepsilon xy}{\varepsilon_x^2} = \frac{6162}{408} = 15$$

$y = 318 + 15(-8) = 198$

$y = 318 + 15(8) = 438$

$y = 318 + 15(13) = 513$

SOUTHERN ELECTRIC STEEL COMPANY
A DIVISION OF THE CECO CORPORATION
POST OFFICE BOX 2764 BIRMINGHAM, ALABAMA 35202
(205) 252-8777

Southern Electric Steel Company was constructed and began operations in late 1955. Continual expansion and improvements has resulted in a Mill capable of producting reinforcing bars, plain rounds and merchant bars. Angles have been produced in small quantities. Recent modifications in the Melt Shop by the upgrading of two ARC Furnaces and installation of a Continuous Casting Facility resulted in increased melting capacity, yield and metal quality. Annual capacity is approximately 100,000 tons of finished product.

GENERAL DESCRIPTION OF FACILITIES

LAND:- The plant is located in Birmingham, Alabama on approximately 21.5 acres with an adjoining 5.5 acres under a lease and purchase option.

BUILDINGS:- A total of 118,022 square feet is under roof as follows:

A. General offices and plant offices - 5,820 Sq. ft.
B. Melt Shop and Caster - 65,000 Sq. ft.
C. Rolling Mill and Warehouse - 46,200 Sq. ft.
D. Storage and Miscellaneous - 1002 Sq. ft.

TRANSPORTATION:- Rail and truck service is excellent. The plant is served by both Southern and Frisco railroads with daily switching. Trucking is served by a number of lines with stretch trailers readily available.

UTILITIES:-

A. Electrical power is supplied by Alabama Power Company with a 115,000-13,800 volt substation adjacent to plant.
B. Natural gas is supplied by Alabama Gas Company at pressures up to 40 PSI.
C. Water- Potable and fire protection water is supplied by the Birmingham Water Board and process water by the Industrial Water Board.
D. Sewage- Connection is made to the Birmingham Sewage System.
E. Fuel Oil - Supplied by local oil companies with approximately 120,000 gallons storage tanks on plant site.

GENERAL DESCRIPTION OF FACILITIES (CONT'D)

SCRAP HANDLING:- Outside storage capacity of approximately 25,000 tons with 4700 ft. of track and an Americal Locomotive Crane with magnet. Track scales rated at 200 ton capacity. Scrap is also received by large dump trucks from scrap precessors adjacent to Southern Electric plant.

MELT SHOP:- The electric furnace melting operation is located in a single bay building with outside scrap storage and loading under an overhead charging crane. Two scrap tracks supply scrap from inbound shipments and outside storage area.

A. Electric ARC Furnaces - two (2) Whiting Hydro-ARC Furnaces, new shells, 22 and 30 ton capacity, transformers - 7500 and 8400 KVA.
B. Cranes - Two (2) Whiting overhead 20/5 ton and one Whiting overhead 30/5 ton with magnets.
C. Lime Storage Silo - Adjacent to Melt Shop with loading conveyor directly to scrap bucket.
D. Air Pollution Control System - Mikro-Modulaire System by Mikro Pul- shaking type with side draft hoods. 100,000 CFM capacity.
E. Lab - ARL 29500 Quantovac Spectrometer; Tinius Olsen-200 ton - Tensile Tester with stress, strain recorder; Leco combustion and carbon determinator; miscellaneous other equipment.
F. Miscellaneous Equipment - 180 cubic ft. scrap buckets, 20 ton ladles with slide gates, ladle heating stations(3) and ladle transfer car, ladle relining pit, roof repair forms, Melt Shop-Caster-Crane communication system.

CONTINUOUS CASTING MACHINE:- NEW - Started up April 1, 1976. Has cast 6037 heats to date with excellent quality and production performance.

A. Casting Machine - Koppers Company manufactured.
    1. Three strand, 26' radius, curved mold design. Self propelled rigid starter bar with quick restart capability.
    2. Billet sizes: 4" x 4" through 6" x 6" square billets.
    3. Automatic torches: three
    4. Discharge: Automatic pushoffs (3) onto stationary skid rail cooling beds.
B. Caster Hot Metal Crane: Builder - Crane Manufacturing, Milwaukee, Wisconsin, 75/25 ton capacity. Remote radio controlled (Telemotive) no crane operator assigned.
C. Maintenance Crane: Whiting 5-ton, radio controlled, located over torch cut-off and straightener area.
D. Ladle Car: Located on top of machine structure, permits continuous "piggback" casting operation.
E. Ladle Transfer Car: Transports ladle from Melt Shop to Casting Machine Building. Average transfer time 5-7 minutes.
F. Mold Tubes: Tapered and chrome plated. Record life on single tube 967 heats.

G. Water Systems: Spray water and machine cooling system is open to atmosphere, recirculating, cooled and strained and includes a scale settling pit. The mold water system is completely closed, treated, cooled and strained.
H. Emergency Mold Water System: Storage tank located on top of Caster Building. Capacity is 5000 gallons, automatic dumping upon pressure or power failure. Simultaneous automatic refilling occurs from city water system significantly increasing emergency water supply.

ROLLING MILL:- The Rolling Mill is located in a single building bay including finish product storage and rail and truck loading areas. Two (2) 5 ton Whiting overhead cranes service the mill and loading operations.

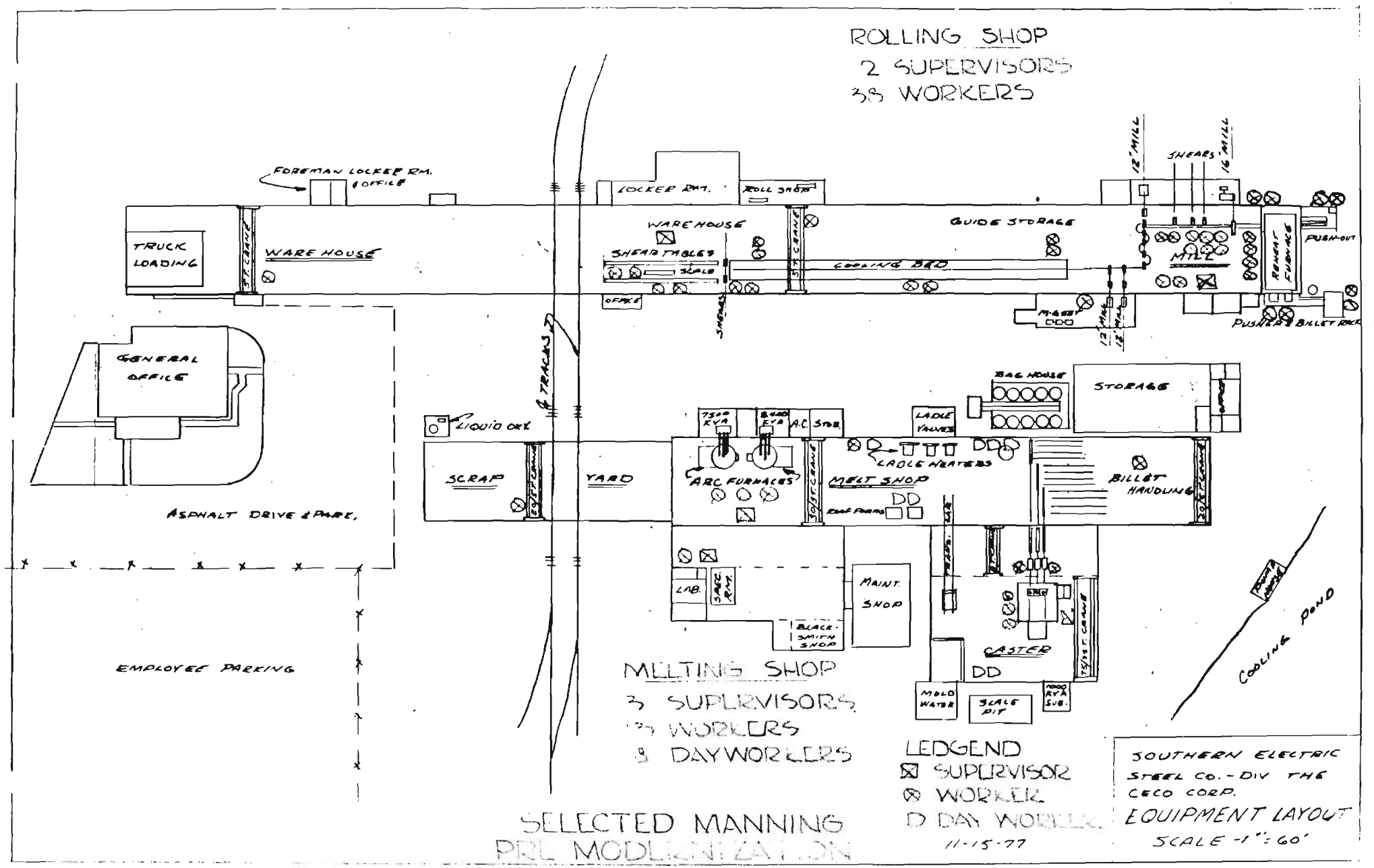
(1) Reheat Furnace - 30 ton/hour capacity, pusher type, with oil and gas combustion equipment.
(2) Roughing Mill - Three (3) high, 16" Blaw-Knox mill driven by a G.E. 1000 H.P., slip ring motor, 2300 V.,A.C.
(3) Shears - Two (2) aligator crop hot shears.
(4) Intermediate Mill - Five (5) stand, 12" Cross Country Blaw-Knox Mill (four (4) three (3) high and one two (2) high stands) driven by a 1200 H.P. G.E. slip ring motor, 2300 V.,A.C.
(5) Finishing Mills - Two (2) two (2) high 12" Birdsboro Continuous finishing stands, each driven by a G.E. 500 H.P. D.C. motor powered by 1250 H.P. M.G. set.
(6) Cooling Bed - 220 foot double bed with automatic flippers and two cold shears, banding lines and bundle weighing scales.
(7) Roll Shop - Roll turning block lathe and one knurling machine.
(8) Substantial mill roll inventory.
(9) Inside warehouse storage capacity approximately 5-6000 tons.

EXHIBIT 5A

UNITED SOUTHERN STEEL COMPANY, INC.

CAPITAL IMPROVEMENTS

Description	Estimated Completion	Estimated Cost
Reheat Furnace		
Charger	2nd Month	$150,000
Pushout	2nd Month	10,000
Controls	2nd Month	35,000
Electric Furnace		
Foundation & Shells	2nd Month	70,000
Water Cooled Panels	2nd Month	100,000
Rolling Mill		
Automated Roughing Mill	2nd Month	250,000
Improvement on 6 & 7 Stands	4th Month	85,000
Improvements on Cross Country Mill	4th Month	40,000
Improvements on Cross Country Mill	5th Month	40,000
Ladles and Buckets	3rd Month	50,000
TOTAL		$830,000


ROLLING SHOP
2 SUPERVISORS
38 WORKERS
FOREMAN LOCKER RM.
& OFFICE
LOCKER RM.
ROLL SHOP
TRUCK LOADING
WARE HOUSE
WARE HOUSE
SHEAR TABLES
SCALE
OFFICE
COOLING BED
GUIDE STORAGE
12" MILL
16" MILL
SHEARS
MILL
REHEAT FURNACE
PUSH-OUT
PUSHER & BILLET ROLL
GENERAL OFFICE
ASPHALT DRIVE & PARK.
EMPLOYEE PARKING
LIQUID OXY.
4 TRACKS
SCRAP YARD
ARC FURNACES
MELT SHOP
LADLE HEATERS
LADLE VALVES
BAG HOUSE
STORAGE
BILLET HANDLING
LAB.
MAINT. SHOP
BLACK-SMITH SHOP
CASTER
MOLD WATER
SCALE PIT
COOLING POND
MELTING SHOP
3 SUPERVISORS
37 WORKERS
9 DAY WORKERS
SELECTED MANNING
PRL MODERNIZATION
LEDGEND
SUPERVISOR
WORKER
D DAY WORKER
11-15-77
SOUTHERN ELECTRIC STEEL CO. - DIV THE CECO CORP.
EQUIPMENT LAYOUT
SCALE -1" = 60'

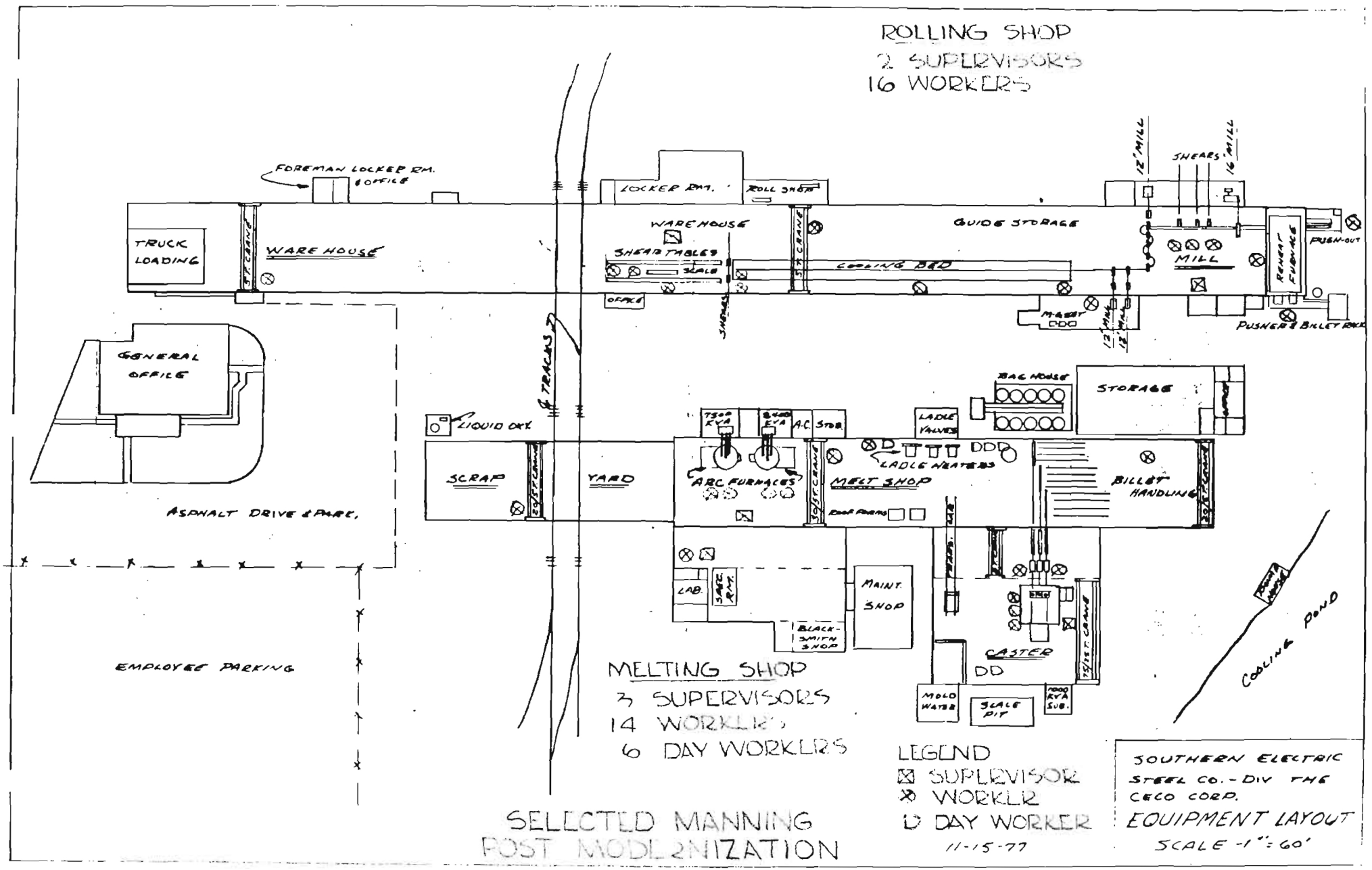

ROLLING SHOP
2 SUPERVISORS
16 WORKERS
FOREMAN LOCKER RM. & OFFICE
LOCKER RM.
ROLL SHOP
12" MILL
SHEARS
16" MILL
TRUCK LOADING
WARE HOUSE
WARE HOUSE
SHEAR TABLES
SCALE
OFFICE
COOLING BED
GUIDE STORAGE
MILL
REHEAT FURNACE
PUSH-OUT
PUSHER & BILLET RACK
GENERAL OFFICE
ASPHALT DRIVE & PARK.
EMPLOYEE PARKING
LIQUID OXY.
SCRAP YARD
ARC FURNACES
MELT SHOP
LADLE HEATERS
LADLE VALVES
BAG HOUSE
STORAGE
BILLET HANDLING
LAB.
MAINT. SHOP
BLACK-SMITH SHOP
CASTER
MOLD WATER
SCALE PIT
COOLING POND
MELTING SHOP
3 SUPERVISORS
14 WORKERS
6 DAY WORKERS
LEGEND
SUPERVISOR
WORKER
DAY WORKER
11-15-77
SOUTHERN ELECTRIC STEEL CO. - DIV THE CECO CORP.
EQUIPMENT LAYOUT
SCALE - 1" = 60'
SELECTED MANNING
POST MODERNIZATION

EXHIBIT 8

United Southern Steel Company, Inc.
Environmental Assessment

I. Project Description

This project is to restart operations at the Southern Electric Steel Company. The company is located on a 21.5 acre site at 2301 Huntsville Road, Birmingham, Alabama.

II. Beneficiaries

The Southern Electric Steel Mill was designed to produce concrete reinforcing bar as its principal product. The annual capacity of the plant is about 100,000 tons. The operation consists of melting down scrap metal in electric arc furnaces, casting into billets, and hot rolling into bar shapes.

Air polluting emissions will come mainly from the plant's two electric arc furnaces. According to estimates by the American Conference of Governmental Industrial Hygienists, 11 lbs. particulate and 18 lbs. CO is emitted per ton of material processed in an electric arc furnace. The furnaces are fitted with side draft hoods and are aspirated by a shaker type bag house filter of 100,000 CFM capacity.

Solid wastes generated by the operation are slag and scale. The slag is basically limestone. In this case the slag is further processed by a contractor who grinds up the slag and reclaims the metallic content for remelting: the residue is used for landfill. Scale is iron oxide which forms on the billet upon cooling and flakes off at various points in the operation. Most of this scale is removed in the casting operations and the rolling operation by cooling water sprays. This cooling water circulates in a closed system in which the scale is allowed to settle out in a settling pond. The pond is periodically pumped out, the residue is allowed to dry, and then is removed to a land fill.

There is essentially no waste water effluent from the operation in an open system. The plant is supplied by both an industrial and a municipal source of water. Industrial water is used for cooling of the electric furnaces and make-up to closed systems; it is discharged to Village Creek. Municipal water is used for general sanitary purposes; it is discharged to the sewer.

When the plant was in operation it had two permits to operate air contaminant sources from the Jefferson County Department of Health, Air Pollution Control and Alabama Air Pollution Control Commission. (Permit No 4-07-0260-2102 for Electric Arc Furnace and permit No. 4-07-0260-3101 for Steel Reheating Furnace.) These permits were voided on January 19, 1978, when Southern Electric Steel decided to discontinue operation. Before commencing operation, new permits must be obtained from the Jefferson County Health Department.

On March 9, 1978, Mr. William H. Cloward, Chief, Permits Section, Water Enforcement Branch, Enforcement Division, United States Environmental Protection Agency, Region IV, investigated the water-treating facilities at Southern Electric Steel. He concluded that the facility did not have a discharge requiring an NPDES permit.

III. Description of Project Area

The plant as mentioned above is an existing facility. It is located in an industrial area north of the city of Birmingham. Several similar heavy industries are located on adjacent sites. Refer to the section of the map of North Birmingham, Alabama, by the U.S. Geological Survey (Attachment 1) upon which the plant is located. There are virtually no residences within a quarter mile of the plant; there are, however, three schools and one hospital within a one mile radius of the plant and an estimated half of this area is comprised of residences. Downtown Birmingham is approximately one and one half miles from the plant. There are no environmentally unstable lands or habitats of endangered species in this urban area.

Refer also to the enclosed aerial photograph of plant (Attachment 2). Note above mentioned pollution abatement equipment and measures: bag house apparatus is located between the two buildings, the settling pond is to the east of the buildings, and slag processing is to the south.

IV. Environmental Impact

1. Air Quality - emissions are realized from both the reheating furnace and the electric arc furnace. The former is fired by natural gas (fuel oil backup). The exhaust is comprised of normal combustion products of these fuels. Particulate emission is nil when burning natural gas and very low when burning fuel oil (assuming the fuel/air mixture is properly adjusted). There is no special pollution control apparatus affixed to the reheat furnace. In the case of the electric arc furnace there are significant polluting emissions. The quantity of dust and fume generated depends on the quality of the scrap, sequence of charge additions, furnace size, meltdown rate, and refining procedure. According to estimates by the American Conference of Governmental Industrial Hygienists, 11 lbs. particulate and 18 lbs. CO is emitted per ton of material processed in an electric furnace with an oxygen lance. Additionally, emissions of nitrogen oxides range from 0.7 to 4.1 pounds per hour per furnace, depending on the degree of arcing during heating. The characteristically small particle size of the fume limits the type of control equipment capable of giving high efficiency performance. Fabric filters are most commonly used for emission control. This facility has a fabric filter pollution control system of the shaking type with side draft hoods at the furnaces. The system is a Milkro-Modulaire System by Milkro Pul and it has a capacity of 100,000 CFM. When the plant was in operation it had two permits to operate air contaminating sources issued by the Jefferson County Department of Health, Air Pollution Control and Alabama Air Pollution Control Commission (Permit No. 4-07-0260-2102 for the Electric Arc Furnaces and Permit No. 4-07-0260-3101 for the Steel Reheating Furnace). These permits were voided on January 19, 1978, when Southern

Electric Steel decided to discontinue operations. Before commencing operation new permits will be sought. Mr. Gerald Coker of the Jefferson County Department of Health was contacted; he indicated that compliance problems do exist at the Southern Electric Steel facility and permits would not be freely issued. Mr. Robert Geddis, Air Enforcement Branch, USEPA, Region IV, was contacted; he indicated that the Southern Electric Steel facility was not in compliance as an existing source and in all probability would be considered as a new source when restarted. Mr. Roger Pfaff, Air Enforcement Branch, USEPA, Region IV, was contacted; he affirmed Mr. Geddis' contention that the facility would be considered a new source.

2. Water Quality - the facility is supplied by both an industrial and a municipal water source. The industrial water is used to cool the electric arc furnaces. It is discharged into adjacent Village Creek. The thermal polluting aspects of this practice have been approved by EPA, and a periodic monitoring of the water temperature is ongoing. The municipal water is used for general sanitary purposes; it is discharged to the sewer.

The plant has an extensive and complicated closed-loop water system. The purpose of the system is to supply cooling water sprays for both the billet casting and the rolling operation. The waste water treatment system in this plant is best described as recirculation and sedimentation. Normal removal efficiencies for this type of system is 96-98% suspended solids and 60% lube oils. The sediment is collected in a settling pond of approximately one acre size located to the east of the plant. The pond is annually discharged to Village Creek, at which time the sediment is dredged out and used for landfill. EPA officials will be notified before the pond is drained so that they may inspect the operation. Mr. William H. Cloward, Water Enforcement Branch, U.S. EPA, Region IV, visited the facility on March 9, 1978; he concluded from his investigation that the facility did not have a discharge requiring an NPDES permit.

3. Solid Waste Management - Solid wastes generated by the operation are slag and scale. The slag is basically limestone. It is produced at a rate of about 250 pounds per ton of steel processed; this equates to an annual amount of about 10,000 tons. The metallic content of the slag is reclaimed by a pulverizing and gravity separation process. The residue is used for landfill. The scale is iron oxide which forms on the billet upon cooling and flakes off at various points in the operation. Most of the scale is removed by water sprays in the casting and rolling operation. The scale collects in the settling pond at a rate of about 30 pounds per ton of steel processed; this equates to an annual amount of about 1,200 tons. The pond is drained annually and the scale dredged out and used for landfill.

4. Land Use/Description - The plant is an existing facility.

5. Transportation - The plant is an existing facility. Highway and rail facilities are presently provided. New traffic will be negligible.

6. Natural Environment - The plant is an existing facility. The site is an industrial park.

7. Human Population - No effect on nearby residents and no relocation of population are expected.

8. Construction - No construction is planned.

9. Conditions of noise and safety do exist but they are confined to the plant and do not have an impact on the surrounding area. The plant is located in an area that is subject to flooding, but there is nothing in the plant that could make the condition worse, i.e., contaminate the flood waters.

V. Certification of Compliance with the Clear Air Act and Federal Water Pollution Control Act

The project involves an existing facility. The facility is listed as being in violation of above on the basis of excessive polluting emission from the electric arc furnaces. Mr. Gerald Coker of the Jefferson County Department of Health was

contacted; he indicated that compliance problems do exist at the Southern Electric Steel facility and that permits would not be freely reissued. Mr. Robert Geddis, Air Enforcement Branch, USEPA, Region IV, was contacted; he indicated that the Southern Electric Steel facility was listed on the EPA List of Violating Facilities. Mr. Geddis also stated that he thought the facility would be considered a new source of pollutants when restarted. Mr. Roger Pfaff, Air Enforcement Branch, USEPA, Region IV, was contacted; he affirmed Mr. Geddis' contention that the facility would be considered a new source and thus subject to more rigorous requirements than existing sources.

VI. Outside Reaction to Project

The project has a significant amount of local backing. The Honorable David Vann, Mayor of Birmingham, sponsored this feasibility study. Other backing has come from the Birmingham Chamber of Commerce, the Birmingham Metropolitan Development Board, and EDA officials for the State of Alabama.

VII. Cumulative Impact

Project is not known to have any tie-in with any other federal or non-federal projects.

VIII. Energy Impacts

Southern Electric Steel has a contract with the Alabama Power Company for its electric power needs. Service is interruptible. Usage is approximately 520 KWH/ton which equates to about 41.6 mm KWH per year. Southern Electric Steel has a contract with the Alabama Gas Company for its natural gas needs. Service is interruptible with no storage at the facility. Usage is approximately 6m cubic feet per ton, which equates to about 480 mm cubic feet per year. A 120,000 gallon fuel oil backup is provided on the plant site.

IX. State Environmental Policy Act

The company had several state issued permits to operate polluting sources. The Jefferson County Board of Health issued Permit #4-07-0260-2102 for the operation of the electric arc furnaces and Permit #4-07-0260-3101 for the operation of the steel reheating furnace. These permits were cancelled when the plant closed down.

The company has a water discharge (NPDES) Permit #AL0003735 issued by USEPA, Region IV, which is still in force.

X. Adverse Impact

There are really no alternatives to the project since the plant is an existing facility. However, there is the option to modify the plant to bring it into compliance if this is deemed necessary. The applicant is presently working with officials of the Jefferson County Board of Health and U.S. EPA, Region IV, to ascertain what the requirements will be.


ATTACHMENT 1
Highland
Boyles
Fairmont Sch
Riggins Sch
Washington Heights
Brickkilns
Substation
Harriman Park
East Boyles
Fairfield
Calloway Sch
Vulcan City
Mineral Park Municipal Golf Course
Park Place
Hudson Sch
Village Creek
Douglasville
North Birmingham
Maclin Park
Vanderbilt
Radio Tower
BIRMINGHAM
East Birmingham
Lewis Sch
Quarry
McArthur Sch
Norwood
Carraway Methodist Hospital
Norwood Park
Fountain Heights
Fountain Heights Park
Martin Sch
Oak Hill Cemetery
Tuggle Sch
Barker Park
Thomas Sch
Courthouse
City Hall
Library
Birmingham Terminal Station
SOUTHERN
NASHVILLE
LOUISVILLE AND NASHVILLE
HUNTSVILLE
CEDAR
Water
Gas
Oxygen
Park
BM 604
BM 580
BM 566
BM 561
BM 578
BM 597
BM 588
BM 608
BM 606
BM 612
BM 602
35

ATTACHMENT 2

EXHIBIT 9

UNITED SOUTHERN STEEL COMPANY, INC.
STANDARD VARIABLE COSTS

	MELT $ TON (BILLET)	ROLL $ TON (BAR)	TOTAL $ TON (BAR)	MFG. OHD $ TON (BAR)
Scrap Used	96.00	--	96.00	--
Alloys & Additives Used	11.41	--	11.41	--
Ingots Used	--	186.09	8.07	--
Scrap Recovered	--	(4.30)	(4.30)	--
Net Material Cost	107.41	181.79	111.18	--
Production Labor	6.89	5.44	12.85	--
Cranemen	1.37	.73	2.20	--
Total Direct Labor on Product	8.26	6.17	15.05	--
Relining Labor	.60	--	.65	--
Slag Handling & Equip. Oper.	--	--	--	.83
Mold Grinding & Roll Dressing	--	.49	.49	--
Shipping Department - Labor	--	.52	.52	.04
Indirect & General Labor	.50	.72	1.26	1.27
Shift & Overtime Premium	.47	.32	.83	.10
Vacation & Holiday Expense	1.30	.87	2.27	.43
Total Indirect Labor	2.87	2.92	6.02	2.67
Repairs & Maintenance - Mech.	1.35	.99	2.44	.36
Repairs & Maintenance - Elec.	1.00	.44	1.52	.05
Total Repairs & Maint. Labor	2.35	1.43	3.96	.41
Electrical Supplies	1.12	.46	1.66	.29
Mechanical Supplies	2.64	1.19	4.03	.82
Total Elec. & Mech. Supplies	3.75	1.65	5.69	1.11
Wall & Roof Rebricking	1.62	.22	1.96	--
Ladle Rebricking	2.55	--	2.74	--
Total Rebricking	4.17	.22	4.70	--
Operating Supplies	8.38	1.67	10.68	1.58
Shipping Supplies	--	.16	.16	--
Electrodes	12.06		12.97	--
Oxygen & Acetylene	1.59	.07	1.78	--
Lubricants	.42	.29	.74	.12
Provision for Rolls	--	.77	.77	--
Total Operating Supplies	22.45	2.96	27.10	1.70
Electric Power	17.69	4.99	24.01	.14
Natural Gas	1.20	5.24	6.53	.15
Fuel Oil	--	3.28	3.28	--
Water	.68	.47	1.20	.14
Total Utilities	19.57	13.98	35.02	.43
Payroll Taxes & Insurance	2.23	1.82	4.22	.62
Total Manufacturing Cost	65.65	31.15	101.76	6.94
Total Before Prorated Costs	173.06	212.94	212.94	--
Total Prorated Costs	3.47	6.94	6.94	(6.94)
Total Cost to Manufacture	176.53	219.88	219.88	--
Yield	92%	93%	86.6%	--

EXHIBIT 10

UNITED SOUTHERN STEEL COMPANY, INC.
INVENTORY SCHEDULE

	Starting	Ending 1st Quarter	Ending 2nd Quarter	Ending 3rd Quarter	Ending 4th Quarter	Ending 2nd Year	Ending 3rd Year	Ending 4th Year
Levels								
Raw Material (Gross Tons)	5,000	5,000	6,000	6,000	6,400	6,800	7,000	7,200
Billets (Tons)		2,000	4,000	5,000	6,000	6,400	6,800	7,000
Finished Bar (Tons)			1,000	1,500	2,000	3,000	3,500	4,000
Change in Level								
Raw Material (Gross Ton)		(1)	1,000	--	400	400	200	200
Billets (Tons)		2,000	2,000	1,000	1,000	400	200	200
Finished Bar (Tons)			1,000	500	500	1,000	500	500
Rebar Sold		--	8,000	18,000	18,000	76,800	81,600	84,000

1. Raw Material includes both scrap and additives, i.e., $11.41 of additives for every gross ton of scrap at $96.00.

EXHIBIT 11

UNITED SOUTHERN STEEL COMPANY, INC.
PRO FORMA INCOME STATEMENTS

		1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Year	2nd Year	3rd Year	4th Year
Net Sales (Tons)	(1)	--	8,000	18,000	18,000	44,000	76,800	81,600	84,000
Net Sales	(2)	--	2,240,000	5,040,000	5,040,000	12,320,000	21,504,000	22,848,000	23,520,000
Cost of Goods Sold	(3)	--	1,765,328	3,971,988	3,971,988	9,709,304	16,947,149	18,006,346	18,535,944
Gross Profit		--	474,672	1,068,012	1,068,012	2,610,696	4,556,851	4,841,654	4,984,056
Salaries	(4)								
Management		20,100	20,100	20,100	20,100	80,400	80,400	80,400	80,400
Supervision		80,975	136,725	136,725	136,725	491,150	546,900	546,900	546,900
Clerical & Tech		25,020	31,755	31,755	31,755	120,285	127,020	127,020	127,020
Sales		16,500	16,500	16,500	16,500	66,000	66,000	66,000	66,000
Security		8,800	13,200	13,200	13,200	48,400	52,800	52,800	52,800
Total Salaries		151,395	218,280	218,280	218,280	806,235	873,120	873,120	873,120
Misc. Overhead									
Payroll Taxes & Benefits	(5)	30,279	43,656	43,656	43,656	161,247	174,624	174,624	174,624
Office Utilities		4,500	4,500	4,500	4,500	18,000	18,000	18,000	18,000
Office Supplies		8,000	8,000	8,000	8,000	32,000	32,000	32,000	32,000
Property Taxes		10,088	10,088	10,088	10,088	40,352	40,352	40,352	40,352
Prof. Services	(6)	100,000	50,000	50,000	50,000	250,000	200,000	200,000	200,000
Insurance		18,000	18,000	18,000	18,000	72,000	72,000	72,000	72,000
Depreciation	(7)	72,897	91,960	92,293	92,293	349,443	374,173	404,173	426,673
Total Misc. Overhead		243,764	226,204	226,537	226,537	923,042	911,149	941,149	963,649
Start-Up Cost	(8)	400,000	300,000	200,000	100,000	1,000,000	--	--	--
Operating Income		(795,159)	(269,812)	423,195	523,195	(118,581)	2,772,582	3,027,385	3,147,287
Interest on STN		44,000	132,000	144,000	144,000	464,000	520,000	412,000	296,000
Interest on LTD		91,875	91,875	91,875	91,875	367,500	367,500	341,250	315,000
Total Interest		135,875	223,875	235,875	235,875	831,500	887,500	753,250	611,000
Profit Sharing	(9)	--	--	--	--	--	141,381	170,560	190,222
Income Before Taxes		(931,034)	(493,687)	187,320	287,320	(950,081)	1,743,701	2,103,575	2,346,065
Income Taxes	(10)	(465,517)	(246,843)	--	--	(475,040)	396,810	1,051,787	1,173,032
Net Income		(931,034)	(493,687)	187,320	287,320	(950,081)	1,346,891	1,051,788	1,173,033

Pro Forma Income Statement

NOTES

1. Sales Volume

Year 1	Month 1 - 4	Month 5	Month 6	Month 7 - Month 12
	--	3,000	5,000	6,000 per month

Year 2	6,400 per month
Year 3	6,800 per month
Year 4	7,000 per month

2. Sales Price

$280.00 per N.T. of Rebar

3. Cost of Goods Sold

Cost of goods sold includes only variable costs. These costs are derived from the Schedule of Standard Cost Exhibit 9.

Cost per net ton for all components of Cost of Goods Sold are the same costs appearing in the Notes to the Statement of Projected Cash Receipts and Disbursements for these cost components.

4. Salaries

Management (President and Controller) $6,700/month

Supervision

	Month 1	Month 2	Thereafter
Melting	$7,590	$15,325	$15,325
Rolling	--	--	9,680
Service	2,200	10,285	20,570
Total	$9,790	$25,610	$45,575

Clerical and Technical

Month 1	Thereafter
$3,850	$10,585

Sales $16,500/month

Security $ 4,400/month starting month 2

5. Payroll taxes and insurance (includes Group Hospital and Disability, Workmen's Compensation, Social Security) - 20% of wages and salaries.

6. Professional Services (legal, financial, and accounting)

$100,000 in the first quarter
$ 50,000/quarter thereafter

7. Depreciation Expense

- Straight Lines

- Useful Life:
  Building - 20 years
  Machinery and Equipment - 10 years

- Assets Depreciated	Estimated Cost	Depreciation Begins
Existing Building	$ 150,000	Year 1 - Month 1
Existing Machinery and Equipment	2,786,733	Year 1 - Month 1
Reheat Furnace Charger, Pushout & Controls	195,000	Year 1 - Month 2
Electric Furnace Foundation & Shells	70,000	Year 1 - Month 2
Automated Roughing Mill	250,000	Year 1 - Month 2
2 Water Cooled Furnace Panels	100,000	Year 1 - Month 2
Ladles and Buckets	50,000	Year 1 - Month 3
Improvements on 6 & 7 Stands	85,000	Year 1 - Month 4
Improvements on Cross Country Mill	40,000	Year 1 - Month 4
Improvements on Cross Country Mill	40,000	Year 1 - Month 5
Machinery and Equipment	250,000	Year 2 - Month
Machinery and Equipment	350,000	Year 3 - Month
Machinery and Equipment	350,000	Year 4 - Month

8. Start-up Costs

These costs are included in order to take into account the inefficiencies associated with any start-up. The standard cost schedule is based on a steady state operation and does not reflect the start-up condition.

9. Profit Sharing

7.5% of Income Before Taxes effective at the beginning of Year 2.

10. Income Taxes

Tax rate of 50%

EXHIBIT 12

UNITED SOUTHERN STEEL COMPANY, INC
PROJECTED STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS

		1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Year	2nd Year	3rd Year	4th Year
Disbursements									
Wages & Salaries	(1)								
Production		27,680	252,950	476,895	476,895	1,234,420	1,952,870	2,057,731	2,117,803
Management		20,100	20,100	20,100	20,100	80,400	80,400	80,400	80,400
Supervision		80,975	136,725	136,725	136,725	491,150	546,900	546,900	546,900
Clerical & Tech		25,020	31,755	31,755	31,755	120,285	127,020	127,020	127,020
Sales		16,500	16,500	16,500	16,500	66,000	66,000	66,000	66,000
Security		8,800	13,200	13,200	13,200	48,400	52,800	52,800	52,800
Total W&S		179,075	471,230	695,175	695,175	2,040,655	2,825,990	2,930,851	2,990,923
Payroll Tax & Benefits	(2)	35,815	94,246	139,035	139,035	408,131	565,198	586,171	598,186
Purchases	(3)								
Raw Materials		271,870	1,322,850	2,164,240	2,207,204	5,966,164	8,735,732	9,170,842	9,437,674
Mill Supplies		60,740	416,022	778,069	723,935	1,978,766	2,945,111	3,094,003	3,183,979
Office Supplies		8,000	8,000	8,000	8,000	32,000	32,000	32,000	32,000
Total Purchases		340,610	1,746,872	2,950,309	2,939,139	7,976,930	11,712,843	12,296,845	12,653,653
Utilities	(4)	43,640	358,820	671,940	671,940	1,746,340	2,750,384	2,897,056	2,981,104
Manuf. Overhead	(5)	6,940	69,400	131,860	131,860	340,060	541,320	570,468	587,124
Miscellaneous									
Insurance		18,000	18,000	18,000	18,000	72,000	72,000	72,000	72,000
Property Taxes		10,088	10,088	10,088	10,088	40,352	40,352	40,352	40,352
Prof. Services		100,000	50,000	50,000	50,000	250,000	200,000	200,000	200,000
Start-Up Costs		400,000	300,000	200,000	100,000	1,000,000	--	--	--
Total Misc.		528,088	378,088	278,088	178,088	1,362,352	312,352	312,352	312,352
Other Disbursements									
Capital Expense	(6)	415,000	415,000	--	--	830,000	250,000	350,000	350,000
Profit Sharing	(7)	--	--	--	--	--	141,381	170,560	190,222
Income Taxes	(8)	--	--	--	--	--	396,810	1,051,787	1,173,033
Interest on STN	(9)	44,000	132,000	144,000	144,000	464,000	520,000	412,000	296,000
Interest on LTD	(10)	91,875	91,875	91,875	91,875	367,500	367,500	341,250	315,000
Prin. Pay. STN	(11)	--	--	--	--	--	700,000	650,000	800,000
Prin. Pay. LTD	(12)	--	--	--	--	--	250,000	250,000	250,000
Total Other		550,875	638,875	235,875	235,875	1,661,500	2,625,691	3,225,597	3,374,255
Total Disbursements		1,685,043	3,757,531	5,102,282	4,991,112	15,535,968	21,333,778	22,819,340	23,497,597
Receipts									
Cash from Oper.		--	840,000	4,760,000	5,040,000	10,640,000	21,392,000	22,736,000	23,464,000
Change A/P	(13)	528,537	468,754	(13,855)	(3,723)	979,713	(3,643)	46,875	29,736
STN	(14)	--	2,200,000	300,000	--	2,500,000	--	--	--
Total Receipts		528,537	3,508,754	5,046,145	5,036,277	14,119,713	21,388,357	22,782,875	23,493,736
Cash Surplus		(1,156,506)	(248,777)	(56,137)	45,165	1,416,255	54,579	(36,465)	(3,859)

Projected Statement of Cash Receipts and Disbursements

NOTES

1. Wages & Salaries

Management, supervision, clerical and technical, security, and sales are considered to be fixed costs and are expensed in the period they are incurred. See Note 4 in the notes for the Pro Forma Income Statement. Production includes all direct and indirect labor incurred in producing goods for sale or inventory. Production is a variable cost and is derived from the Standard Cost Schedule (Exhibit 9).

2. Payroll Taxes and Benefits

Includes Group Hospital and Disability, Workmen's Compensation, Social Security = 20% of wages and salaries.

3. Purchases

Purchases of Raw Materials and Mill Supplies are variable and are derived from the Standard Cost Schedule (Exhibit 9). Purchases of office supplies are fixed at $13,000/quarter.

4. Utilities

There are two components of this cost: office utilities which are fixed at $4,500/quarter and production utilities which are variable and derived from the Standard Cost Schedule (Exhibit 9).

5. Manufacturing Overhead

This is a variable cost (maintenance & service) incurred in manufacturing. It is derived from the Standard Cost Schedule, Exhibit 9.

6. Capital Expenditures

See Note 7 Pro Forma Income Statement for the Schedule of Expenditures.

7. Profit Sharing

7.5% of Income before taxes effective at the beginning of Year 2.

8. Income Taxes

Tax rate of 50%

9. Interest on Short Term Notes

Rate of 16% per annum

10. Interest on Long Term Debt

Rate of 10.5% per annum.

11. Principal Payments on Short Term Notes

Debt rollover is not shown. Only permanent reduction is shown, cash levels permitting. Assumption is made that a gradual repayment is made during the interim period.

12. Principal Payments on Long Term Debt

Assume a 15-year term with principal payments of $250,000 taken down in the second year.

13. Change in Accounts Payable

This entry is made to adjust for the part that the purchasing disbursement is overstated. Since terms are assumed to be "net 30 days," this is the amount that is deferred. Also, the amounts required for capital improvement in the first and second quarters are deferred for 90 days.

14. Short Term Notes

This entry shows the cash requirements needs of the company and the timing.

EXHIBIT 13

UNITED SOUTHERN STEEL COMPANY, INC.
PRO FORMA BALANCE SHEET

		Starting	Ending 1st Quarter	Ending 2nd Quarter	Ending 3rd Quarter	Ending 4th Quarter	Ending 2nd Year	Ending 3rd Year	Ending 4th Year
Assets									
Current Assets									
Cash & Equiv	(1)	2,000,000	843,494	594,717	538,580	583,745	638,324	601,859	598,000
Accounts Receivable	(2)	--	--	1,400,000	1,680,000	1,680,000	1,792,000	1,904,000	1,960,000
Inventories	(3)								
Raw Materials	(4)	472,615	529,665	637,075	637,075	680,039	723,003	744,485	765,967
Work in Process		--	354,856	709,712	887,140	1,064,568	1,135,539	1,171,025	1,206,511
Finished Goods		--	--	220,666	330,999	441,332	661,998	772,331	882,664
Mill Supplies		156,000	156,000	173,872	228,006	228,006	244,247	254,247	264,247
Total Inventories		628,615	1,040,521	1,741,325	2,083,220	2,413,945	2,764,787	2,942,088	3,119,389
Total Cur. Assets		2,628,615	1,884,015	3,736,042	4,301,800	4,677,690	5,195,111	5,447,947	5,677,389
Fixed Assets									
Land		34,652	34,652	34,652	34,652	34,652	34,652	34,652	34,652
Building		150,000	150,000	150,00	150,000	150,000	150,000	150,000	150,000
Machinery & Equipment		2,786,733	3,201,733	3,616,733	3,616,733	3,616,733	3,866,733	4,216,733	4,566,733
Gross Property		2,971,385	3,386,385	3,801,385	3,801,385	3,801,385	4,051,385	4,401,385	4,751,385
Accum. Depr.		--	72,897	164,857	257,150	349,443	723,616	1,127,789	1,554,462
Net Fixed Assets		2,971,385	3,313,488	3,636,528	3,544,235	3,451,942	3,327,769	3,273,596	3,196,923
Total Assets		5,600,000	5,197,503	7,372,570	7,846,035	8,129,632	8,522,880	8,721,543	8,874,312
Liabilities & Equity									
Current Liabilities									
Notes Payable	(5)	1,100,000	1,100,000	3,300,000	3,600,000	3,600,000	2,900,000	2,250,000	1,450,000
Accounts Payable	(6)	--	528,537	997,291	983,436	979,713	976,070	1,022,945	1,052,681
Total Cur. Liab.		1,100,000	1,628,537	4,297,291	4,583,436	4,579,713	3,876,070	3,272,945	2,502,681
Long Term Debt									
EDA Loan	(7)	3,500,000	3,500,000	3,500,000	3,500,000	3,500,000	3,250,000	3,000,000	2,750,000
Total Liabilities		4,600,000	5,128,537	7,797,291	8,083,436	8,079,713	7,126,070	6,272,945	5,252,681
Stockholders Equity									
Common Stock	(8)	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Retained Earnings		--	(931,034)	(1,424,721)	(1,237,401)	(950,081)	396,810	1,448,598	2,621,631
Net Worth		1,000,000	68,966	(424,721)	(237,401)	49,919	1,396,810	2,448,598	3,621,631
Total Liab. & Net Worth		5,600,000	5,197,503	7,372,570	7,846,035	8,129,632	8,522,880	8,721,543	8,874,312
Working Capital		1,528,615	225,478	(561,249)	(281,636)	97,977	1,319,041	2,175,002	3,174,708

Pro Forma Balance Sheet

NOTES

1. Cash & Equivalents

   A cash level of around $600,000 is considered necessary to operate in a reasonably smooth manner.

2. Accounts Receivable

   Terms are net 30 days.

3. Inventories

   See inventory schedule Exhibit 10. It is necessary to build up to about a one month level of inventory in all categories to maintain a smooth operation. The plant has operated on a five-week cycle in the past, so a one-month level may be low.

4. Raw Materials

   Raw materials category includes both scrap and additives, i.e., one gross ton of scrap @ $96.00 is accompanied by $11.41 of additives.

5. Notes Payable

   This category represents the cash-for-operation needs of the company. The source of these funds may be revolving credit arrangements with a bank, paid in capital by investors, or 90-day terms extended by creditors. Also, a combination of these arrangements may be undertaken.

6. Accounts Payable

   Terms are net 30 days.

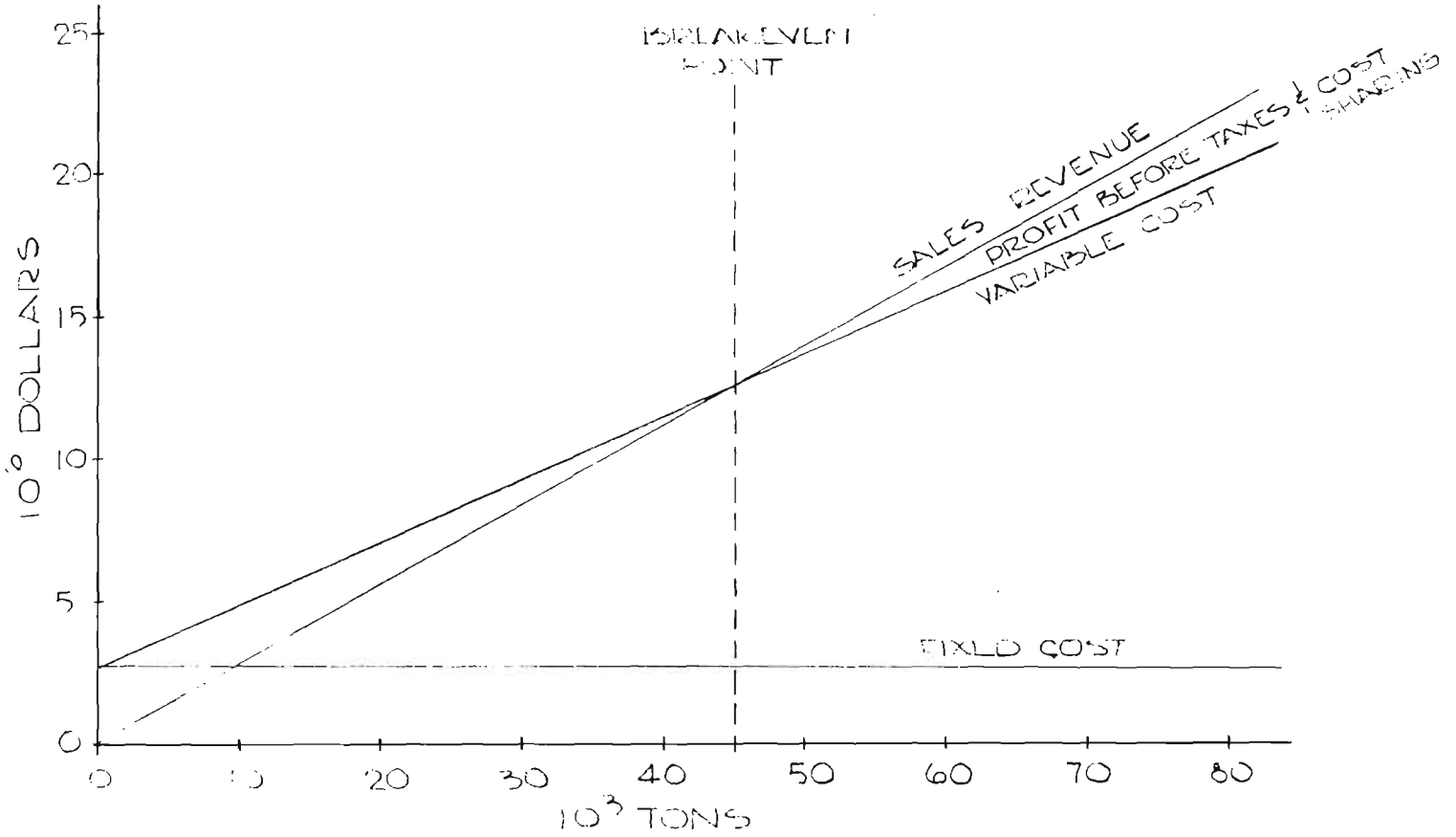
7. EDA Loan

   $3.5 MM for purchase of fixed assets and inventories. Interest rate is assumed to be 10.5% per annum and principal payments of $250,000 taken down at the end of the second year.

8. Common Stock

   A total of $1MM of stock to be issued. No details on the issue or the investors at this time.

EXHIBIT 14



BREAKEVEN
SOUTHERN ELECTRIC STEEL

EXHIBIT 15

UNITED SOUTHERN STEEL COMPANY, INC.
PRO FORMA RATIOS

	Ending 1st Quarter	Ending 2nd Quarter	Ending 3rd Quarter	Ending 4th Quarter	Ending 1st Year	Ending 2nd Year	Ending 3rd Year	Ending 4th Year
Current	1.2	0.9	0.9	1.0	1.0	1.3	1.7	2.3
Quick	0.5	0.5	0.5	0.5	0.5	0.6	0.8	1.0
Cost of Sales/Inventory	--	--	--	--	4.0	6.1	6.1	5.9
Sales/Working Capital	--	(4.0)	(17.9)	52.0	127.0	16.3	10.5	7.4
EBIT/Interest	(5.9)	(1.2)	1.8	2.2	(0.1)	3.1	4.0	5.1
Debt/Worth	4.6	73.3	(18.3)	(34.1)	161.6	5.1	2.6	1.5
% Profit Before Taxes / Net Worth	--	--	--	575.6	(1903.2)	124.8	85.9	64.8
% Profit Before Taxes / Total Assets	(17.9)	(6.7)	2.4	3.5	(11.7)	20.5	24.1	26.4

EXHIBIT 16

RESUME

EDWARD L. NEMETH

EMPLOYMENT RECORD:

June 1, 1974 to Present	WORKS MANAGER ASST. WORKS MANAGER	SOUTHERN ELECTRIC STEEL COMPANY Birmingham, Alabama 230 Employees DIVISION OF THE CECO CORPORATION Chicago, Illinois 6300 Employees
January 1, 1963 to May 31, 1974	MANAGER-SPECIAL PROJECTS GEN. SUPT.-ROLLING & FINISHING ASST. TO VICE PRES.-OPERATIONS ASST. TO VICE PRES.-ENGINEERING SUPERINTENDENT - PLATE MILLS ASST. SUPT. - PLATE MILLS	PHOENIX STEEL CORPORATION Claymont, Delaware 3000 Employees
August 1950 to December 30,1962	MILL FOREMAN RELIEF FOREMAN TRAINEE	INLAND STEEL COMPANY East Chicago, Indiana 22,000 Employees

PRODUCT & PLANT EXPERIENCE: Experienced in most steel mill manufacturing operations; including; arc furnace steel making, ingot teeming, continuous casting, rolling, finishing, heat treating, maintenance, sales production control, shipping, etc. Experienced in manufacture of carbon, alloy, HSLA, stainless, and cladded steels. Directed people at all levels of manufacturing, maintenance, and staff. Experienced in the use of MIS, EDP, process control computers, and power demand control systems. Have responsibility for all accounting functions, payroll, employee relations, QC, safety, partial sales, P&L, and labor contract negotiations.

ACCOMPLISHMENTS & DUTIES:

WORKS MANAGER: Complete plant operations responsibility. Reorganized merchant bar mill and hired key management personnel. Established new personnel policies, plant rules and regulations, installed effective safety and security programs. Established short and long range capital programs for plant modernization. Engineered, purchased, and constructed a $4.5 million three-strand billet continuous casting facility (new buildings, structures, cranes, machines, utilities, and water systems); directed crew training, and started production ten months from ground breaking.

Increased hot metal to finished bar yield 5%. Increased mill production rate 4.5 TPH. Enlarged and replaced arc furnace shells, uprated power transformers increasing furnace hot metal output 4 TPH with a significant reduction in electrode, alloys, additives, and refractory consumption.

Installed purchasing and inventory control, production reporting, management information systems, and cost controls where none existed. Drastically reduced absenteeism, overtime, and markedly improved plant security.

Overall plant operations improved by a reduction of 1.1 man hours per ton of finished product. Assisted sales in establishing new customers (including the single largest) and new product development. Plant P&L responsibility reporting directly to President (CEO) of parent corporation.

MANAGER-SPECIAL PROJECTS: Evaluated, economically feasible capital programs, equipment redesign, process changes, new products, and cost reduction projects. ... A Mill redesign resulted in a 24% improvement in quality and production on lite gage plates; recommended installation of idle, used equipment to improve product flow and reduce cost of handling heavy plates; process changes resulted in crew size reduction and elimination of overtime.

GENERAL SUPT.-ROLLING & FINISHING: (120" 2-hi roughter, 160" 4-hi plate mill, heat treat, spun and pressed head department). Directed 600 employees. Established operating standards for "standard cost control" system. Trained mill crews and debugged GE plate mill process control computer. Established new industry standards on close tolerance plate shearing. Made customer sales calls resulting in largest continuing customer order on record. Established excellent labor relations at operating level. Participated in high level policy meetings establishing corporate policies and goals.

ASSISTANT TO VICE PRESICENT-OPERATIONS: Assisted Vice President in all plant operations. Coordinated production with sales, staff, and service units. Directed the orderly start-up of a new $27 million plate mill rolling complex. Wrote a comprehensive training manual for eleven operator stations and trained mill supervisors and key hourly production personnel prior to start up.

ASSISTANT TO VICE PRESIDENT-ENGINEERING: Responsible for new plate mill layouts ($27 million), established mill operating specifications, visited European mill builders to evaluate and purchase modern finishing equipment. Established detailed operating specifications for $1.5 million process computer control system. Coordinated installation of entire mill complex and computer control center. Coordinated construction with existing ongoing operations to assure continued customer deliveries.

SUPERINTENDENT-PLATE MILLS: (120" 3-hi and 160" 3-hi plate mills) Directed 300 employees. Designed changes in equipment, controls, and procedures resulting in a workforce reduction of 52 people, and reduced operating costs $924,000/yr. Set new production and quality records the same year.

ASSISTANT SUPERINTENDENT-PLATE MILLS: Assisted department superintendent in mill operations and prepared for above improvements.

MILL FOREMAN: Supervised 85 P&M employees in operations, maintenance, and shipping (100" 3-hiplate mill).

EDUCATION:

Northwestern University, Evanston, Illinois - B.S. 1950
Purdue University, Hammond, Indiana - Post Grad., ME studies
G.E. Process Computer School, Phoenix, Arizona - 1968
Continuous Casting Seminar, Houston, Texas - 1976
Vanderbilt University, Finance Seminar, Birmingham, Al 1977

PERSONAL:

Birth date: June 25, 1925, Height: 5'-9", Wt.: 195
Health: Excellent, Married; 3 Children

Home Address: 305 Vesclub Drive
Birmingham, Alabama 35216

Home Phone: 205-822-4980
Office Phone: 205-252-8777 (after 5 p.m. - 205-252-8789)

REFERENCES ON REQUEST

EXHIBIT 17

FRED O. PALMER
412 - 35th Avenue, N. E.
Birmingham, Alabama 35215

(205)854-3686
Married, One Child
Excellent Health

OBJECTIVE: Responsible position which utilizes gained experience in Managerial-Accounting, to formulate and implement policies leading to increased managerial efficiency and Company profit.

EDUCATION: BS-Business Administration, 1952
University of Georgia, Athens, Georgia

Completed additional Seminars in the desciplines of Accounting; Human Relations and Motivation

EXPERIENCE:
(1978-Present) C-E CAST INDUSTRIAL PRODUCTS
4360 Powell Avenue
Post Office Box 1105
Birmingham, Alabama 35202

Position - Controller

Primary duties include total financial functions of Division; to develop and maintain the accounting system consistent with Corporate Directive. Develop all budgets, capital planning and management financial analysis. In addition to Accounting, also function as Personnel Manager.

(1973-1978) SOUTHERN ELECTRIC STEEL COMPANY
2301 Huntsville Road
Birmingham, Alabama

Position - Office Manager

Total responsibility for financial functions of Company including General Accounting, Accounts Payable, Accounts Receivable, Payroll, Billing, Capital Planning and Budgeting.

Working with Engineering Department, developed management standard cost system to plan and effectively control manufacturing costs. Designed, prepared and discussed management reports reflecting variances from planning, their profit impact and assisted in planning corrective action.

FRED O. PALMER

(1970-1972) ALABAMA OXYGEN COMPANY - Birmingham, Alabama

Position - Controller

Responsibilities included preparation of tax reports, cash working funds and corporate cash flow planning and budgets; credit and collections, payroll and disbursement; cost and budgetary accounting.

Re-organized the Controller's Department and put it on a management responsibility basis. Defined departmental functions, outlined duties and responsibilities, hired and trained necessary supervisory personnel.

(1969-1970) ST. REGIS PAPER COMPANY - NIFTY MFG. CO. DIVISION Birmingham, Alabama

Position - Plant Manager

Complete responsibility for all facets of division's operation including marketing, sales, production, financial and administrative. Developed all programs required to achieve desired earnings consistent with corporate goal.

(1965-1969) ST. REGIS PAPER COMPANY - Controller

In charge of financial management of division's three companies, including all accounting and administration.

Effectively developed and carried out a reorganization of company marketing and sales strategy which successfully turned company from operating loss to substantial profit in one year (1965) and paved way for successful comback to highly profitable return on investment for all succeeding years.

(1963-1964) ST. REGIS PAPER COMPANY - Cost Accounting Manager

Working with industrial engineering staff, designed, developed and implemented complete standard cost accounting system, so effective that it was used in all budgeting, product estimated, market planning in inventory controls.

(1957-1962) ST. REGIS PAPER COMPANY - Accountant

Handled all phases of general and cost accounting, including general and subsidiary ledgers, prepared accounting reports, financial statements and conducted internal audits.

EXHIBIT 18

NELSON SARIN
2051 ARNOLD ROAD
BIRMINGHAM, AL 35216

(205) 979-0139
Married, one child, 36 years
Excellent health

OBJECTIVE: Industrial Engineering/Production Planning, Control
Responsible position which utilizes gained experience in industrial engineering and production planning, control, to formulate and implement policies leading to increased managerial efficiency and company profit.

EDUCATIONAL HIGHLIGHTS: Masters - Management Science with specialization 'Financial Management' 1972, West Coast University, Los Angeles, California

B.S. - Industrial Engineering, 1966, California State Polytechnic College, Pomona, California

Completed additional seminars in the disciplines of industrial engineering, human relations and motivation.

EXPERIENCE:

(1977-present)

Southern Electric Steel Company
Huntsville Road, Birmingham, Alabama

Position - Industrial Engineer

- Developed incentives for hourly personnel.
- Developed management information reports and submitted summaries and recommendations to top level management.

(1973-1976)

New Jersey Steel & Structural Corporation
North Crossman Road, Sayreville, New Jersey

Position - Production Control & Industrial Engineering Manager/
Assistant to Executive Vice President Operations.

- Established production control and industrial engineering department of a steel mill manufacturing reinforcing steel and light structural shapes.
- Effectively developed and administered a system of production and material control, scheduling, warehousing and shipping.
- Developed and applied production standards for incentive payments by time study, work smapling, standard data for melt shop, rollingmill and maintenance department involving union employees.
- Developed and administered incentive plans for managerial and supervisory personnel.
- Prepared annual budgets and monthly cost statements for the top level management.

- Managed rolling mill department as superintendent of 45 ton walking beam reheat furnace, continuous rollingmill with 18" rougher, 14" and 12" finish mill, cooling bed, finishing and packaging area. Mill annual capacity 120,000 tons of reinforcing steel, 45 union employees and 8 supervisors.

(1966-1973)

Soule' Steel Company
East Carson Street, Long Beach, California

(1969-1973)- Position - Senior Industrial Engineer

- Responsible for production control department. Established production planning schedules on yearly, quarterly and monthly basis for efficient operationof melt shop and rolling mill in conformance with sales projections.
- Made inventory studies of stocked items, established formal inventory reporting system, economic order quantities, created savings through out of stock or over stock conditions.
- Performed special projects for sales, purchasing, production and accounting departments, leading to the establishment of systems, procedures and forms for management reporting which improved flow of operation and reduced costs.
- Determined, advised and followed up with production supervision in balancing production lines, training, and exeucting cost reduction programs.
- Completed facilities projects involving plant layout, material handling and economic justification of equipment and manpower.
- Member management-union negotiating committee, calculated costs, successfully negotiated union contract which allowed company to remain competitive.

(1966-1969) Position - Junior Industrial Engineer

- Conducted work measurement program for the development of production standards for melt shop rolling mill and maintenance departments.
- Calculated weekly and monthly incentive payment schedules for producing departments.
- Complied and analyzed performance reports and submitted summaries and recommendations to all levels of management.
- Conducted studies for wage administration program involving job descriptions, job classifications, job evaluations, rate ranges, and increase for hourly and management jobs.

EXHIBIT 19

W. C. CAYLEY
4344 Overlook Drive
Birmingham, Alabama 35222

Phone - (205) 595-5354
Age - 60
Height - 6'-6" Weight - 240

EDUCATION: Waxahachie High School, 1933 Graduate, General
Trinity University - 1933 - 1935, Chemistry
University of Alabama - 1935 - 1937, B.A. - Chemistry, Biology, Math, History, English
Trinity University Graduate School - 1938 - Chemistry
University of Alabama Graduate School - MS(Engr) - Mechanical Math, Metallurgy.

OBJECTIVE:

EXPERIENCE: SOUTHERN ELECTRIC STEEL COMPANY,BIRMINGHAM, ALABAMA
Chief Metallurgist - Supervisors - R. W. Scholl, V.P.
E. L. Nemeth, Works Manager

(1955-1977) DUTIES

Set up Wet Chemistry Lab for New Plant, also three other plants for the Company - Jackson, Mississippi; Monterey, Mexico and Kankakee, Illinois - Steel
Set up Spectrograph Lab.
Set up Physical Testing Lab (Tensile, etc.)
Trained and supervised the above Laboratories.
Had charge of training Melters and Furnace Burden for the Electric Furnaces.
Had charge of Quality Assurance and Quality Control from the scrap to the finished product.
Pollution Control (Water)

CENTRAL FOUNDRY COMPANY - HOLT, ALABAMA - CHEMIST
Supervisor - R. L. Farabee, V. P.

(1940-1955) DUTIES

Wet Chemistry - Grey Iron
Sand Testing - Strength (Green & Dry) Compressive & Shear, etc.
Physical Testing - Tensile - Rockwell - Olsen, etc.
Quality Control - War Material - Grenades - Mines, Shells,etc.
Research - 10 years
(a) Centrifugal Castings
(b) Fibre Pipe & Conduit

(1938-1940) STATE OF ALABAMA - School Teacher - Supervisor - H. Cox
N. F. Nunnelley

(1937-1938) REPUBLIC STEEL CORPORATION - Gadsden, Alabama -
Assistant Metallurgist - Supervisor - J. Middleton, Met.

References furnished upon request.

EXHIBIT 20

RAY H. RICKEY
3475 Flintshire Drive
Birmingham, Alabama 35226

205/979-5754
Age - 38 Years - Excellent Health
Married - 2 Children

OBJECTIVE: An opportunity as General Caster Foreman or Assistant Melt Shop Superintendent.

EDUCATION: High School Graduate - Supervisory Training Courses at Roane State Junior College and State of Tennessee Department of Education.

EXPERIENCE:

(November 1975- (Present) SOUTHERN ELECTRIC STEEL COMPANY - Birmingham, Alabama
General Casting Foreman

Coordinated the final stages of construction of a Koppers - 3 Strand Curved Mold Continuous Billet Casting Machine. Selected and trained four complete crews (including supervisors) in the basic fundamentals of casting and in operation of the casting machine, resulting in one of the most successful start-ups in the history of Koppers' Casters. Implemented a complete change over from an ingot pouring operation to billet casting in just four weeks. Maintained high employee morale, good employee relations and excellent safety record which contributed to a consistent smooth operation.

Successfully converted from stopper rods to slide gate valves on all ladles thereby, significantly reducing lost heats due to stopper rod failure. Served in dual capacity as Melt Shop Superintendent/General Caster Foreman during two extended absences of the Melt Shop Superintendent.

Had total responsibility for the procurement of operating materials, supplies and maintenance parts and the continuous training of new crewmen.

(October 1966- (November 1975) TENNESSEE FORGING STEEL COMPANY - Harriman, Tennessee

(October 1973- (November 1975) Assistant Melt Shop-Casting Superintendent

Assisted in the direction of the Melt Shop/Casting operation consisting of two 25-ton Electric Arc Furnaces, one two-strand and one three-strand continuous casting machines. Responsibilities included crewing, training, labor relations and safety for the above operation.

(October 1966 - (October 1973) General Casting Foreman

Complete responsibility for the start-up, crewing, operation, and maintenance of the two-strand, straight stick billet casting machine.

(October 1962- (October 1966) ROANOKE ELECTRIC STEEL COMPANY - Roanoke, Virginia

Hourly paid employee on the first commercial billet casting operation in the United States.

REFERENCES:

E. L. Nemeth - Works Manager - Southern Electric Steel Company - AC 205/252-8777

R. E. Lindsey - Employee Relations Manager - Southern Electric Steel Co. 205/252-8777

John F. Barrett - Melt Shop Superintendent - Connors Steel Co., Huntington, W.Va. 304/529-7171

EXHIBIT 21

JERRY B. PENN
925 Reedwood Lane
Birmingham, Alabama 35235

(205) 836-5541
42 Years Old, Excellent Health
Married - 2 Children

OBJECTIVE: Opportunity as Rolling Mill Superintendent or related management position.

EXPERIENCE:
(1961-1977) SOUTHERN ELECTRIC STEEL COMPANY
2301 Huntsville Road, Birmingham, Alabama
A steel making facility producing reinforcing bars and plain rounds in low and high carbon grades.

ROLLING MILL SUPERINTENDENT

Supervised the entire Rolling Mill operation consisting of a re-heat furnace, 16" rougher, 5 - 12" Stands (Cross Country), and 2 continuous finishing stands producing approximately 90,000 tons per year. Responsibilities included billet storage, finishing, warehousing, and shipping operations. Directed eight supervisors and 100 hourly employees in the operation and maintenance of the above facilities. Handled all training, scheduling, discipline, safety, and employee relations for the entire department.

Worked closely with quality control department and sales in setting production specifications and continually monitored department performanence in achieving these standards.

Maintained a low operating budget for the department by reducing downtime and more effectively utilizing operating personnel. Significantly reduced the man hours per ton ratio during the last three years. Worked closely with engineering in the development of innovative improvements in existing mill equipment, the latest of which was a slitting device for number 4 and number 5 rebars.

(1958 - 1961) ROLLING MILL SUPERVISOR

Supervised the entire crew in the Rolling Mill. Responsibilities included the procurement of necessary operating materials and supplies, mill change-overs and set-ups, and maintenance of the above facilities.

Made continuous adjustments to maintain a close tolerance in bar sizes to meet quality control standards.

Handled labor relations problems at step one of the grievance procedure.

(August 1959 - (March 1963) ROLLER HELPER

Assisted the Rolling Mill Supervisor in the operation of the Mill while training for eventual promotion to Supervisor.

(March 1956 - (August 1959) ROLLING MILL - TONGSMAN

Hand fed ingots into 16" Roughing Mill.

References furnished upon request.

EXHIBIT 22

FRANK L. COX
Route #1, Box 528
Helena, Alabama 35080

(205) 663-0946
42 Years Old, Excellent Health
Married - 4 Children

Objective: Mechanical Maintenance Supervisor - in a progressive and growth minded company.

EDUCATION: Millwright Apprenticeship - 1956-1960
Journeyman Mechanic - 1960-1970

EXPERIENCE: SOUTHERN ELECTRIC STEEL COMPANY, BIRMINGHAM, ALABAMA
Title: Maintenance Supervisor
(1976 to present)

Supervised maintenance crews consisting of eleven Millwrights, eight Electricians, and ten General Plant Employees in an Electric Furnace Melt Shop and Rolling Mill facility. Melt Shop equipment maintained included 2 Whiting/Empco Electric Arc Furnaces, one Koppers 3 strand, curved mold continuous billet caster, one 75 ton Milwaukee, and three Whiting 30 ton overhead cranes. Rolling Mill equipment included a thirty-five ton reheat furnace, eight mill stands, cooling bed and conveyor system and finishing line equipment.
Developed and implemented a preventive maintenance program thereby significantly reducing equipment down-time and more effectively utilizing the available man-power. Responsibilities included the procurement of maintenance materials and supplies necessary for the above operations. Handled all labor relations and safety problems for the above crews.

(1970-1975) Title: Maintenance Crew Leader - Southern Electric Steel

Directed mechanical crew in the installation of Empco-Electric Arc furnace and Koppers 3-Strand Continuous Casting Machine, and rebuilding the reheat furnace and rolling mill equipment, including hot bed and finishing line shears.

(1960-1970) Journeyman Millwright

(1956-1960) Millwright Apprenticeship
Trained in all areas of plant.

(1954-1956) H.C. REEVES BLOCK SUPPLY - Alabaster, Alabama
Title: Maintenance Mechanic

- Responsible for the maintenance of molds, conveys and ovens.

References furnished upon request.

EXHIBIT 23

JAMES C. COE
Route 1, Box 7
Woodstock, Alabama 35188

205/938-2043
Age - 57 Years - Excellent Health
Married - Two Children

OBJECTIVE: An opportunity as a first line supervisor or related management position.

EDUCATION: High School Graduate - one year Allied Institute of Technology - numerous human relations and Safety courses.

EXPERIENCE:

(January 1976-(Present) SOUTHERN ELECTRIC STEEL COMPANY - Birmingham, Alabama

CASTER SUPERVISOR

Supervised entire crew on a Koppers 3-Strand Curved Mold Continuous Billet Caster.

Responsibilities included machine set-up, operation, maintenance and Quality Control in the casting of a 4" X 4" steel billet. Handled labor relations procedure at the first step level of the grievance procedure. Maintained production records,including billet identification and inventory. Due to complexity of the Seniority System, continually trained new crew men in the operation of the Caster.

(October 1969-(January 1976) GENERAL FOREMAN AND SAFETY DIRECTOR

Served as utility supervisor throughout the entire plant, including relieving Assistant Superintendent in his absence. Regularly supervised the General Plant crew consisting of 10-15 laborers, two fork-truck operators and one front-end loader operator. As Safety Director, developed and implemented the plant safety program, including a complete hearing conservation program and protective equipment program.

(October 1956-(October, 1969) FAB SHOP SUPERVISOR

Supervised the fabricating shop operation consisting of cutting, bending, packaging and shipping steel reinforcing bars. Responsibilities included training, discipline, safety and labor relations for the above crews.

(October 1955-(October, 1956) MINE FOREMAN - Paramount Coal Company

Supervised a complete mine crew in an underground coal operation.

REFERENCES: SOUTHERN ELECTRIC STEEL COMPANY - Birmingham, Alabama
Phone - 205/252-8777

E. L. Nemeth - Works Manager
Jerry Penn, Mill Superintendent
Ray Rickey, Caster Superintendent
Raymond Lindsey, Employee Relations Manager

EXHIBIT 24

JAMES F. TERRY
1412 Hendrix Drive
Birmingham, Alabama 35214

205/798-2366
Age - 36 Years, Excellent Health
Married - one Child

EDUCATION: One year - Livingston University

OBJECTIVE: An opportunity as a first line supervisor or related management position.

EXPERIENCE:

(January 1976-
(Present) CASTER SUPERVISOR - Southern Electric Steel Company

Supervised entire crew on a Koppers 3 Strand Curved Mold Continuous Billet Caster.

Responsibilities included machine set-up, operation, maintenance and Quality Control in the casting of a 4" X 4" steel billet. Handled labor relations problems at the first step level of the grievance procedure. Maintained production records including billet identification and inventory. Due to complexity of the Seniority System continually trained new crew men in the operation of the Caster.

(April 1968-
(January 1976) MILL AND WAREHOUSE SUPERVISOR

Supervised cutting, packaging and loading crews in the Rolling Mill, Warehouse. Used electronic digital scale and micrometers to maintain close tolerance on bar diameter to meet quality control specifications. Trained and assigned new employees, and handled step one labor relations problems for the department.

(March 1964-
(April 1968) PRODUCTION CONTROL CLERK - REBAR FABRICATING SHOP

From production lists, provided by Engineering Department, distributed work assignments to cutting, bending and Shipping Departments.

(October 1962-
(March 1964) LOADER-CHECKER - FABRICATING AND WAREHOUSE DEPARTMENTS

References furnished upon request.

EXHIBIT 25

CLYDE E. BRASHIER
4339 Warren Road
Birmingham, Alabama 35213

205/956-1338
Age - 33 Years, Excellent Health
Married - 3 Children

OBJECTIVE: An opportunity in first line supervision or related management position.

EDUCATION: High School Graduate

EXPERIENCE: SOUTHERN ELECTRIC STEEL COMPANY - Birmingham, Alabama
(February 1963-
(November 1977)

(April 1968 -
(November 1977) SUPERVISOR - ROLLING MILL AND WAREHOUSE

Supervised cutting, packaging and loading crews in the Rolling Mill and Warehouse, including one overhead crane operator. Responsibilities included employee training, evaluation, discipline and effective implementation of the Company Safety Program. Operated electronic digital scales and used micrometers to maintain close tolerance on bar diameter to meet quality control specifications.

Maintained good employee relations and handled employee complaints at step one of the grievance procedure.

(October 1966-
(April 1968) SUPERVISOR - SCRAP YARD

Supervised a Locomotive Crane Operator and Helper in the receiving, inventorying, and issuing of steel scrap used in manufacturing steel billets.

Worked closely with the Quality Control Department to develope the proper mix of various grades of scrap necessary to produce steel to specifications.

(February 1963-
(October 1966) PRODUCTION CLERK - REBAR FABRICATING SHOP

From production lists,provided by the Engineering Department, distributed work assignments to cutting, bending and shipping departments.

References furnished upon request.

EXHIBIT 26

JAMES L. KILGORE
Route One, Box 105-A
Cleveland, Alabama 35049

205/681-2635
Married - 3 Children
Age - 43 - Excellent Health

EXPERIENCE:

SOUTHERN ELECTRIC STEEL COMPANY

2301 Huntsville Road, Birmingham, Alabama

A steel making facility producing reinforcing bars and plain rounds in low and high carbon grades.

(January 1976-(Present) ROLLING MILL SUPERVISOR

Supervised an entire operating crew in a Rolling Mill consisting of a reheat furnace, sixteen inch Roughing Mill, five - 12" Cross Country Stands, two continuous finishing stands and cooling bed.

Responsibilities included the procurement of necessary operating materials and supplies, mill set ups, and maintenance of the above facilities. Made continuous adjustments during operation to maintain close tolerance in bar sizes to meet quality control standards.

Handled the training of new employees, safety, discipline, and employee relations for the above crew.

(April 1973 - (January 1976) SUPERVISOR - MILL SETUP CREW

Directed the maintenance and mill change-over crews for the above operation, on the down turn,including maintenance Millwright and Electricians.

Contributed significantly to efficient mill operations by consistently providing good mill set-ups, and by anticipating and repairing potential breakdowns.

(April 1956 - (April 1973) TONGSMAN - ROLLING MILL

Hand fed steel billets into roughing mill.

REFERENCES:

E. L. Nemeth, Works Manager - Southern Electric Steel Company - 205/252-8777

Jerry Penn, Mill Superintendent - Southern Electric Steel Co. 205/252-8777

R. E. Lindsey, Employee Relations Manager - Southern Electric Steel Co. 205/252-8777

EXHIBIT 27

JOHN T. MARTIN
1229 Thomas Avenue
Leeds, Alabama 35094

205/699-2549
Single - Age 47 Years
Excellent Health

OBJECTIVE: An opportunity in a first line supervisory position.

EDUCATION: High School Graduate

EXPERIENCE: SOUTHERN ELECTRIC STEEL COMPANY - Birmingham, Alabama

(August 1959-
(November 1977) A steel making facility producing low and high carbon steel reinforcing bars and smooth rounds.

(March 1963-
(November 1977) ROLLING MILL SUPERVISOR

Supervised the entire crew in a Rolling Mill operation consisting of a re-heat furnace, 16" Roughing Mill, 5-12" Cross Country Stands, 2 continuous finishing stands, and cooling bed.

Responsibilities included the procurement of necessary operating materials and supplies, mill change-overs and set-ups, and maintenance of the above facilities.

Made continuous adjustments to maintain a close tolerance in bar sizes to meet quality control standards.

Handled labor relations problems at step one of the grievance procedure.

(August 1959-
(March 1963) ROLLER HELPER

Assisted the Rolling Mill Supervisor in the operation of the Mill while training for eventual promotion to Supervisor.

(March 1956-
(August 1959) ROLLING MILL - TONGSMAN

Hand feed ingots into 16" Roughing Mill.

References furnished upon request.

EXHIBIT 28

UNITED SOUTHERN STEEL COMPANY, INC.

PROJECTED NUMBER OF EMPLOYEES

Month	1	2	3-On
PRESIDENT	1	1	1
GENERAL PLANT SUPERINTENDENT	1	1	1
MELT SHOP:			
Melt Shop and Casting Supt.	1	1	1
Shift Melter	-	3	3
Melter Helper-#1 Furnace	-	3	3
Melter Helper-#2 Furnace	-	3	3
Weighman	-	6	6
Crane Operator	1	6	6
Steel Pourer	-	3	3
Ladleman Helper	-	3	3
Caster Operator	-	3	3
Torchman-Casting Machine	-	6	6
Masons	-	6	6
Slidegate and Bricklayer	-	1	1
Working Foreman - Scrap Operator	-	1	1
Scrap Crane Operator	-	3	3
Clean-Up	1	3	3
TOTAL MELT SHOP	3	48	48
ROLLING MILL:			
Heater	-	-	2
Charger	-	-	2
Pushout Operator	-	-	2
16" Automated Mill Rougher	-	-	2
Hot Bed	-	-	4
Shearman	-	-	2
Panman	-	-	4
Hooker	-	-	6
Crane Operator	1	1	2
Fork Lift Operator	-	1	2
Roll Turner	-	-	2
Set-Up/Clean-Up Man	-	-	5
Roller Helper	-	-	2
Utility	-	-	2
Rollers	-	1	3
Pan Line Foreman	-	-	2
TOTAL ROLLING MILL	1	3	44

UNITED SOUTHERN STEEL COMPANY, INC.

PROJECTED NUMBER OF EMPLOYEES

Month	1	2	3-On
ENGINEERING AND MAINTAINENCE:			
Millwrights	6	6	7
Electricans	5	5	6
General Plant Clean-Up	2	2	3
Engineer	1	1	1
Mechanics Foreman	1	1	1
Electrical Foreman	1	1	1
TOTAL EGR. AND MAINT.	16	16	19
SALESMEN	2	2	2
QUALITY CONTROL:			
Chief Metallurgist	-	1	1
Lab Technicians	-	3	3
TOTAL QUALITY CONTROL	-	4	4
ACCOUNTING, PURCHASING & SHIPPING:			
Controller	1	1	1
Payroll	1	2	2
Accounts Payable	1	1	1
Accounts Receivable	-	-	1
Production Control & Shipping Sup.	1	1	1
Prodcont and Shipping Clerk	1	1	2
Purchasing	1	1	1
Stockroom Clerk	2	3	4
TOTAL ACCT., PURCH. & SHIPPING	8	10	13
PERSONNEL, SAFETY & SECURITY MANAGER	1	1	1
SECRETARIES	1	2	2
Total Number of Employees	34	88	135

EXHIBIT 29

UNITED SOUTHERN STEEL COMPANY, INC.

DEPARTMENTAL ORGANIZATION CHART

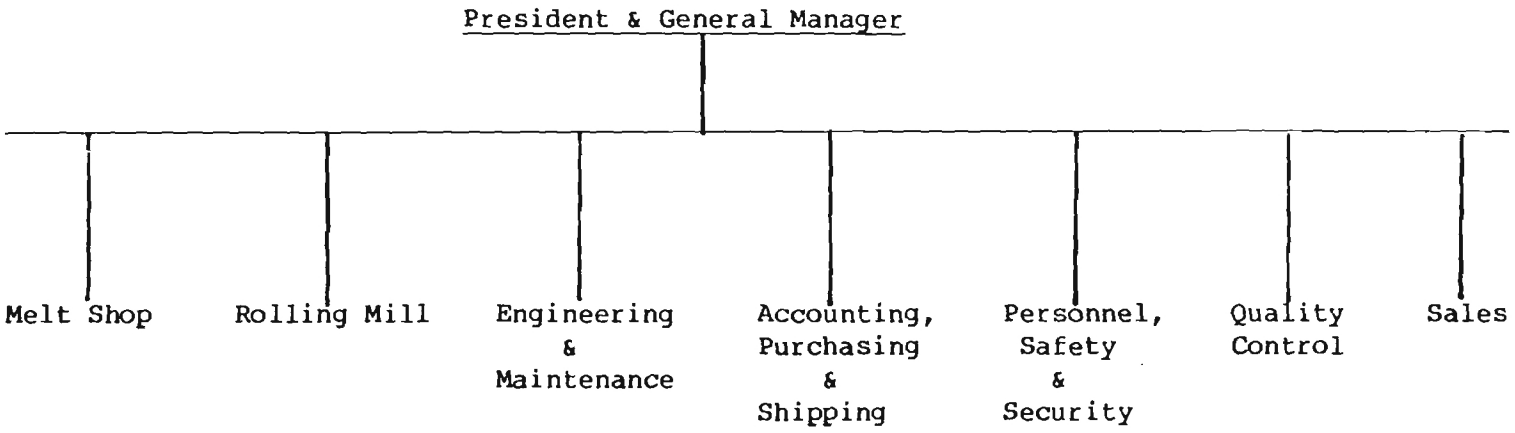


EXHIBIT 30

UNITED SOUTHERN STEEL COMPANY INC.
ALTERNATIVE DEPARTMENTAL ORGANIZATION CHART